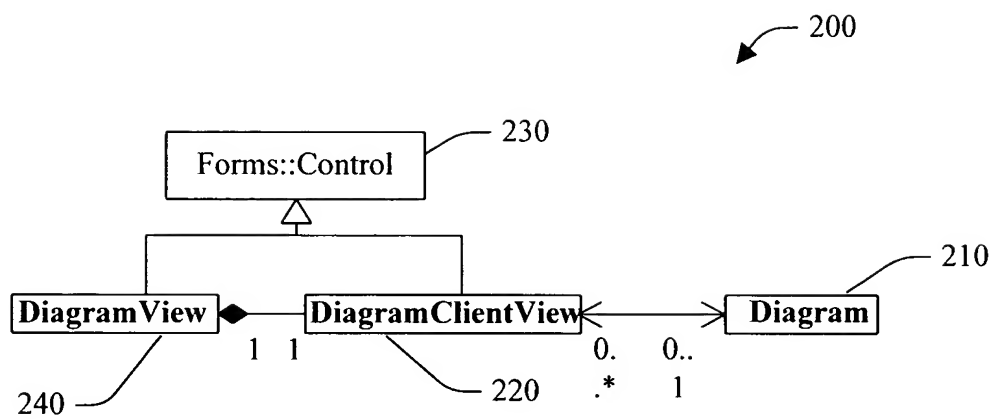
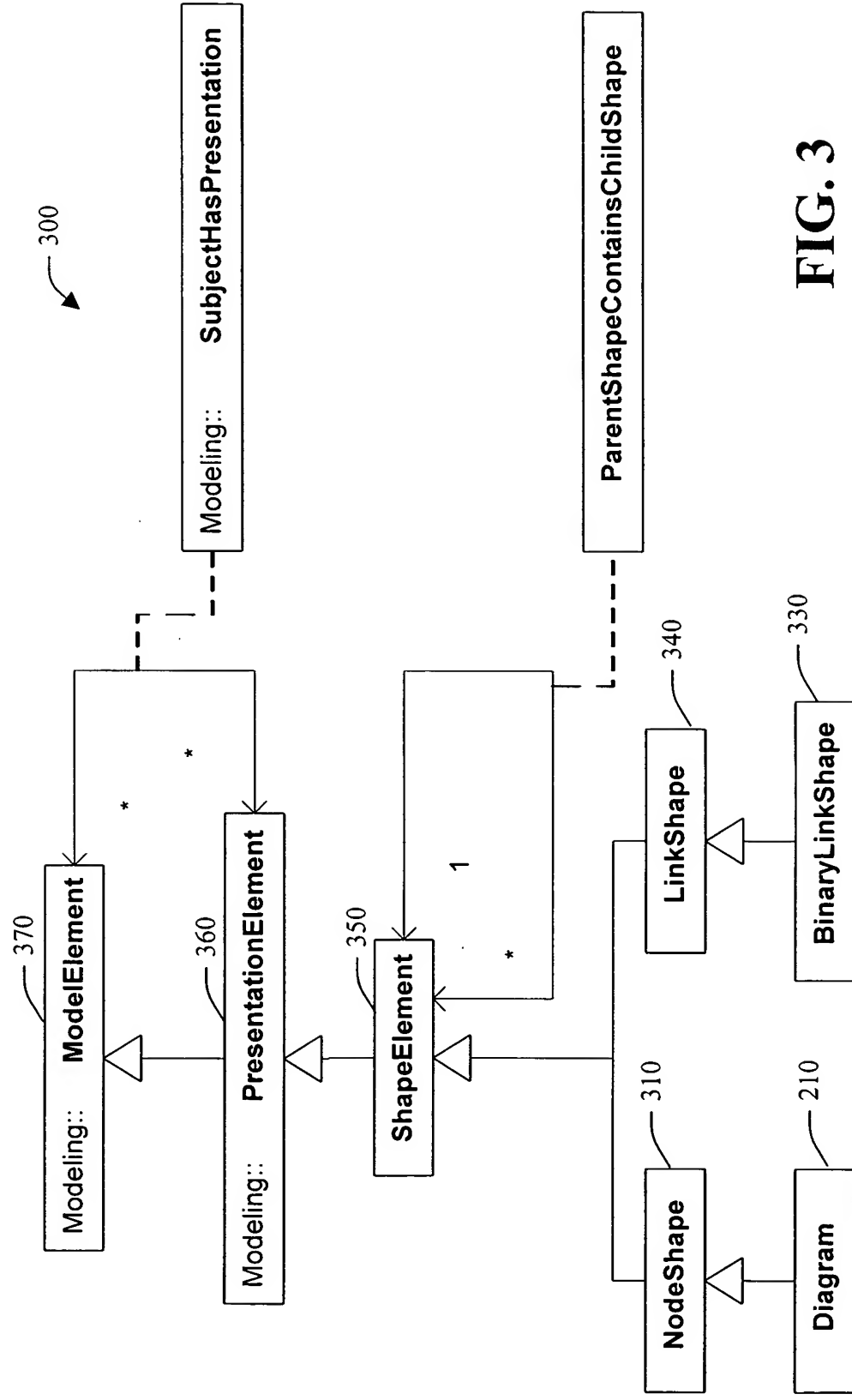


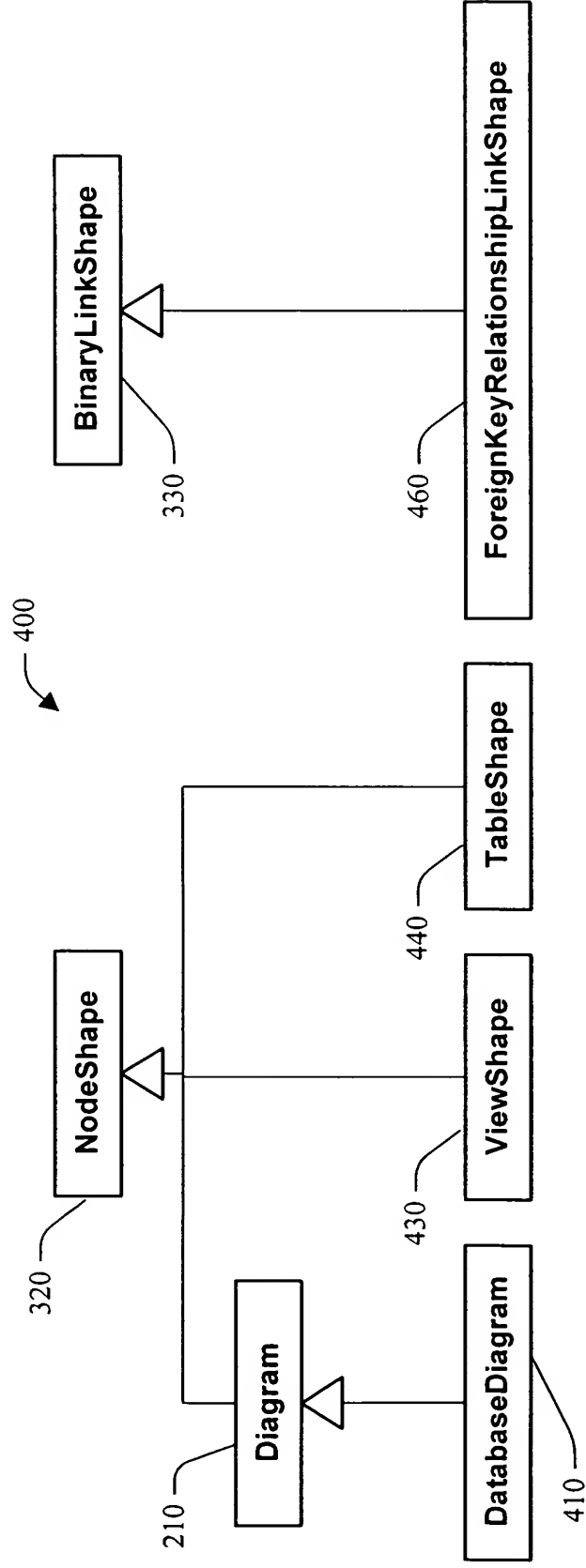
**FIG. 1**



**FIG. 2**



**FIG. 3**



**FIG. 4**

ShapeElement
+Invalidate(in absoluteShapeBounds : RectangleD) +DoHitTest(in point : PointD, in hitTestInfo : DiagramHitTestInfo) : bool +OnPaintShape(in paintArgs : DiagramPaintEventArgs) +OnPaintSelection(in paintArgs : DiagramPaintEventArgs) +OnPaintFeedback(in paintArgs : DiagramPaintEventArgs) +OnMouseDown(in mouseArgs : DiagramMouseEventArgs) +OnMouseMove(in mouseArgs : DiagramMouseEventArgs) +OnMouseUp(in mouseArgs : DiagramMouseEventArgs) +OnDragOver(in diagramDragArgs : DiagramDragEventArgs) +OnDragDrop(in diagramDragArgs : DiagramDragEventArgs) +OnKeyDown(in keyArgs : DiagramKeyEventArgs) +OnKeyUp(in keyArgs : DiagramKeyEventArgs) +OnKeyPress(in keyPressArgs : DiagramKeyPressEventArgs) +ShapeFields() : ShapeFieldCollection +AddChild(in childShape : ShapeElement) +Parent() : ShapeElement +Diagram() : Diagram +Children() : IList #ShapeGeometry() : ShapeGeometry +AbsoluteBoundingBox() : RectangleD +BoundingBox() : RectangleD +ZOrder() : double +StyleSet() : StyleSet

FIG. 5

600

<i><b>NodeShape</b></i>
+AbsoluteBounds() : RectangleD +Bounds() : RectangleD +Location() : PointD +Size() : SizeD +BoundsRules() : BoundsRules -GetCompliantBounds(in proposedBounds : RectangleD) : RectangleD

**FIG. 6**

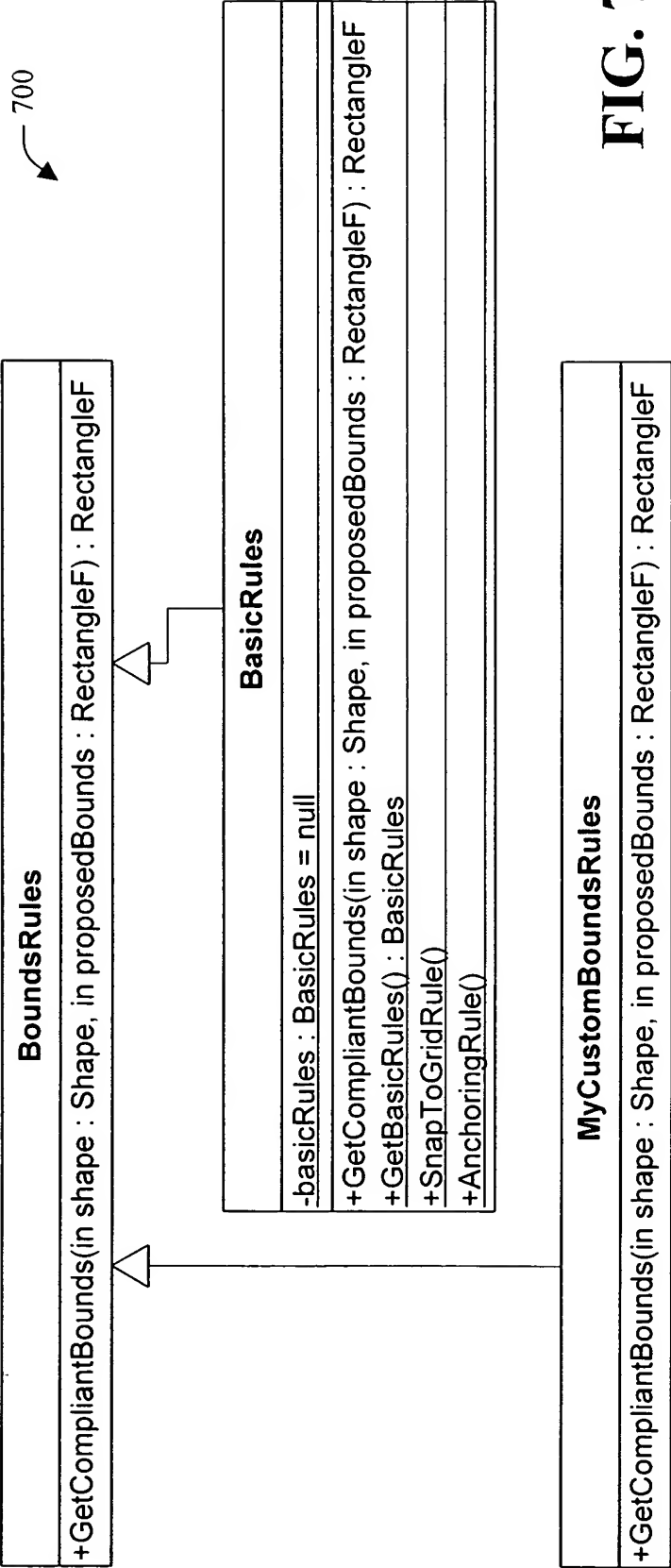


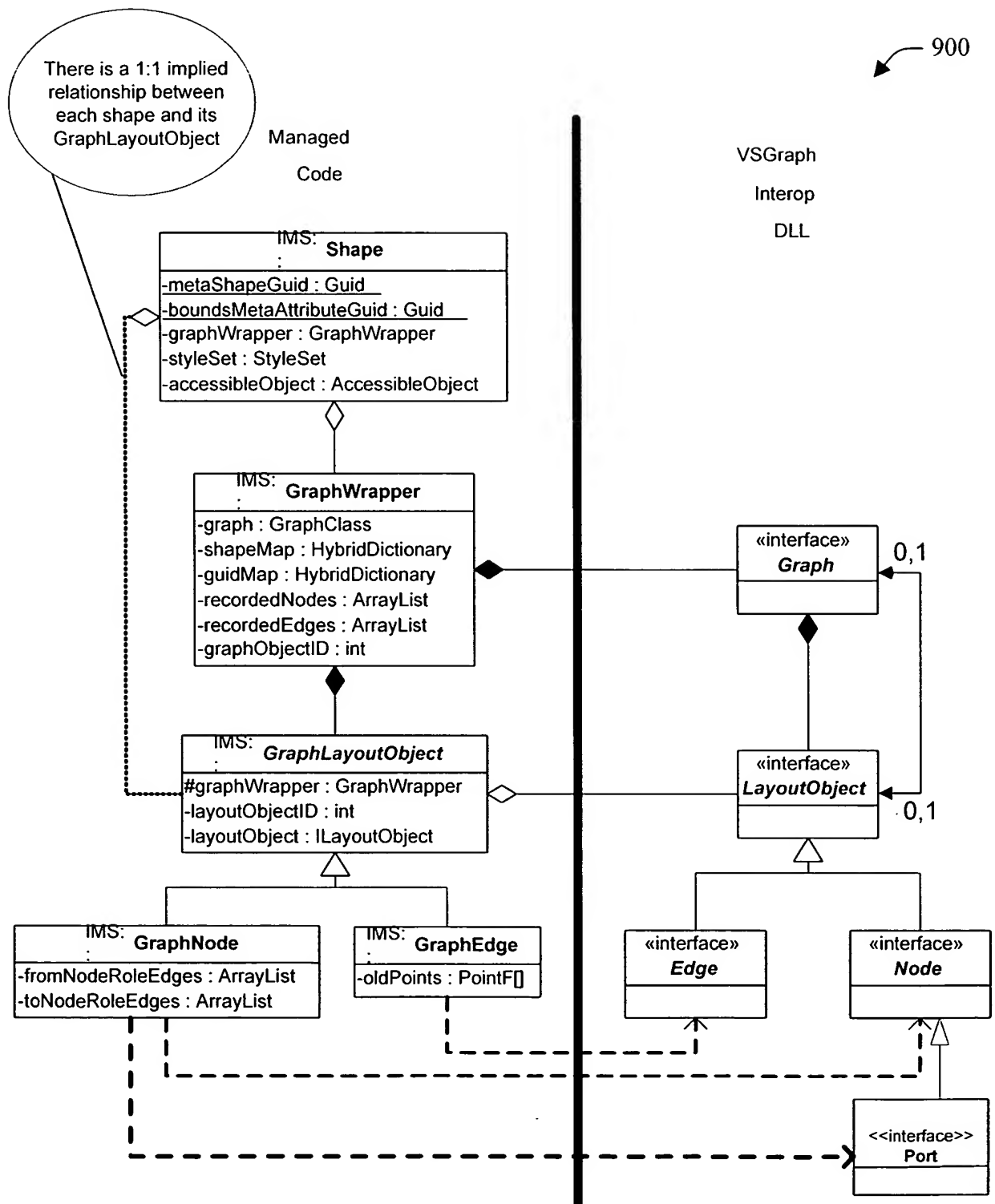
FIG. 7

800

<i>Diagram</i>
+SnapToGrid() : bool +ShowGrid() : bool +Associate(in designSurface : DesignSurface) +Unassociate(in designSurface : DesignSurface) +Graph() : GraphWrapper

**FIG. 8**





**FIG. 9**

1000

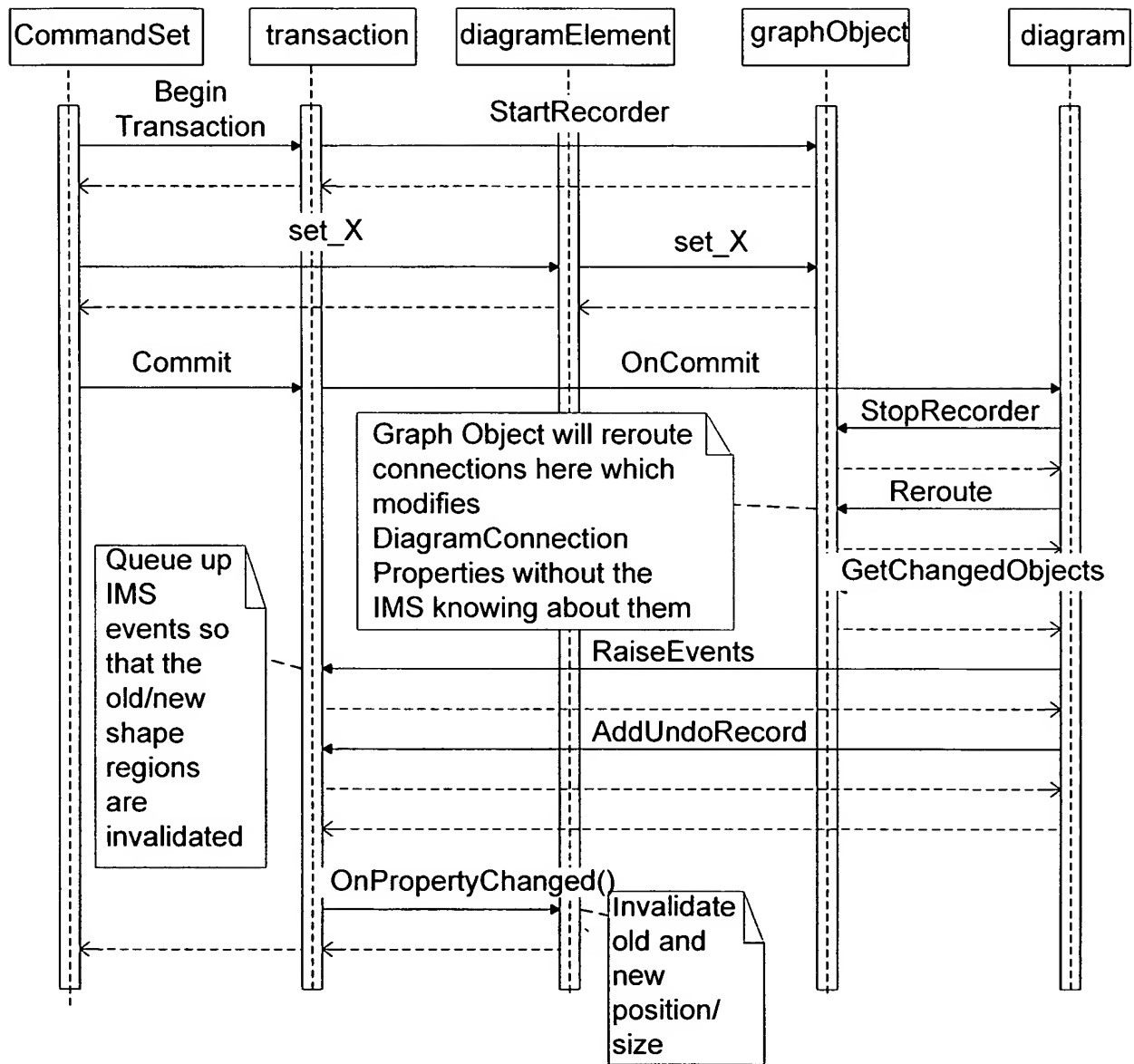


FIG. 10

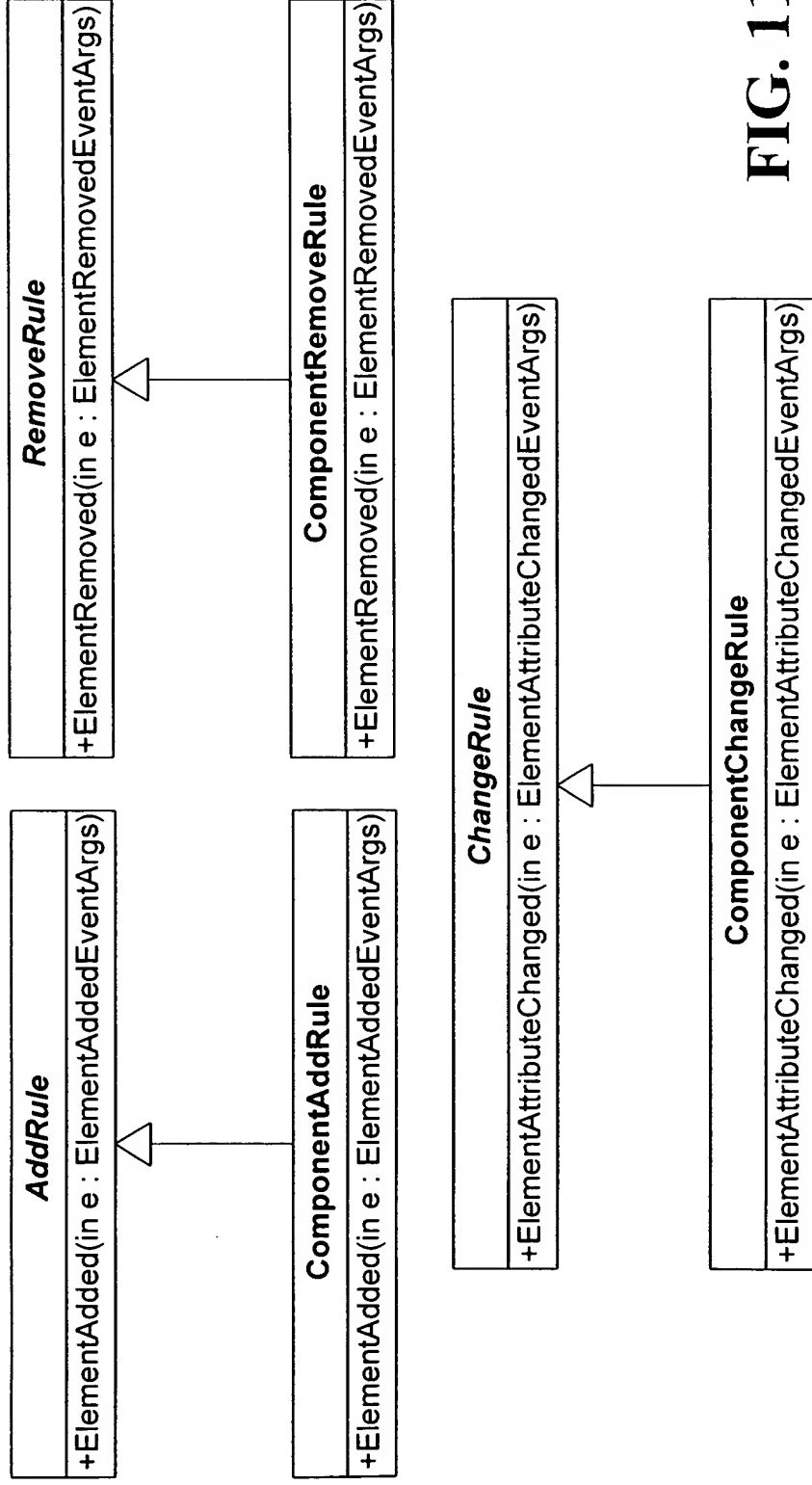


FIG. 11

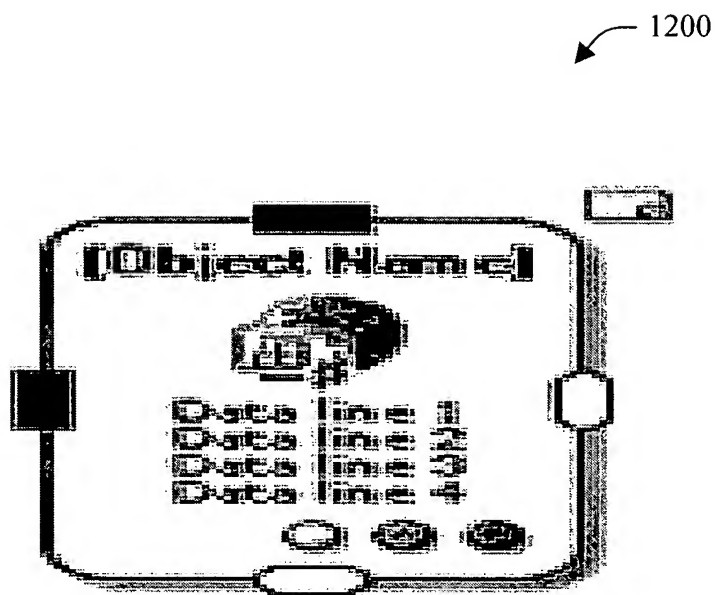


FIG. 12

1300

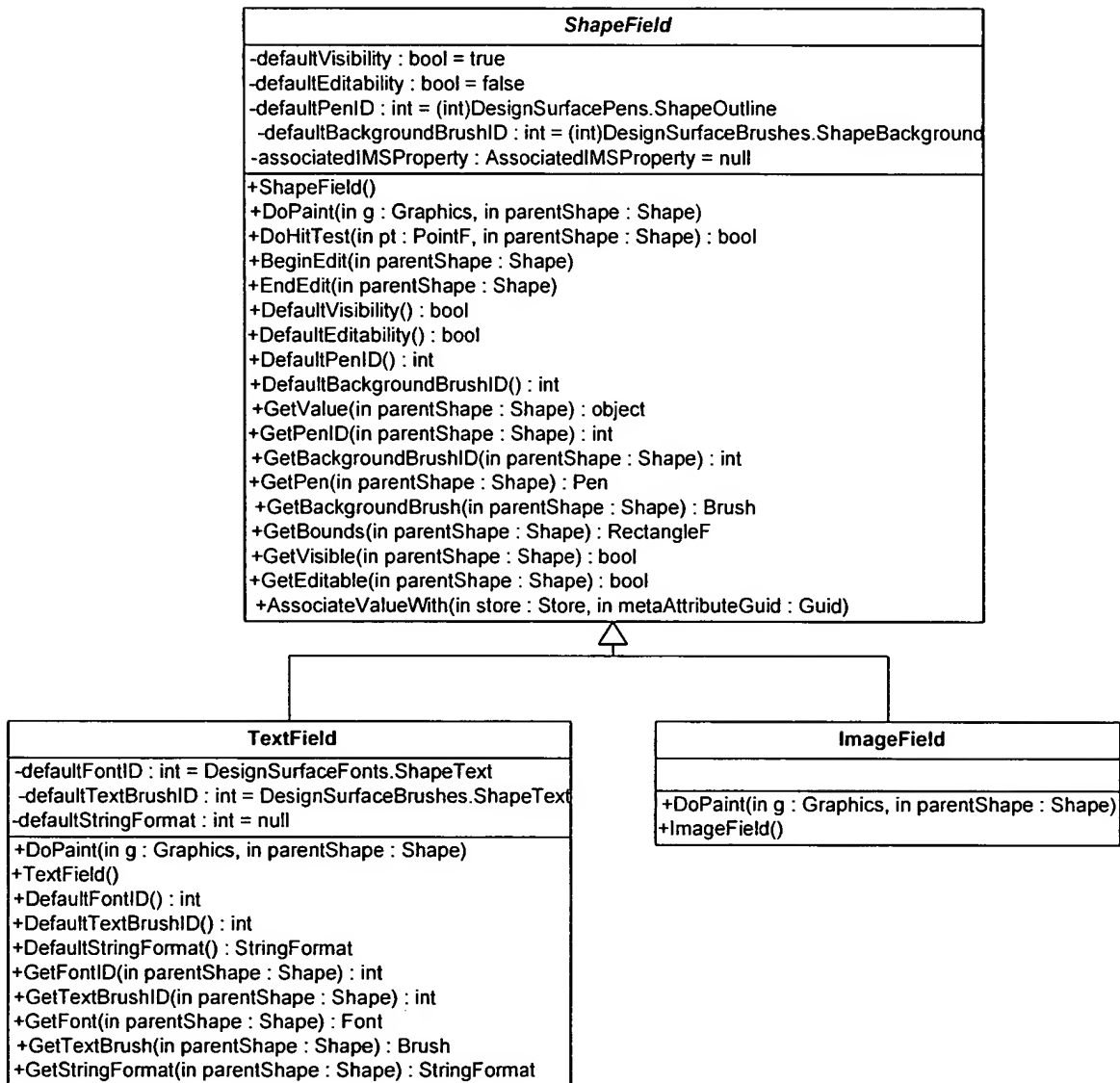
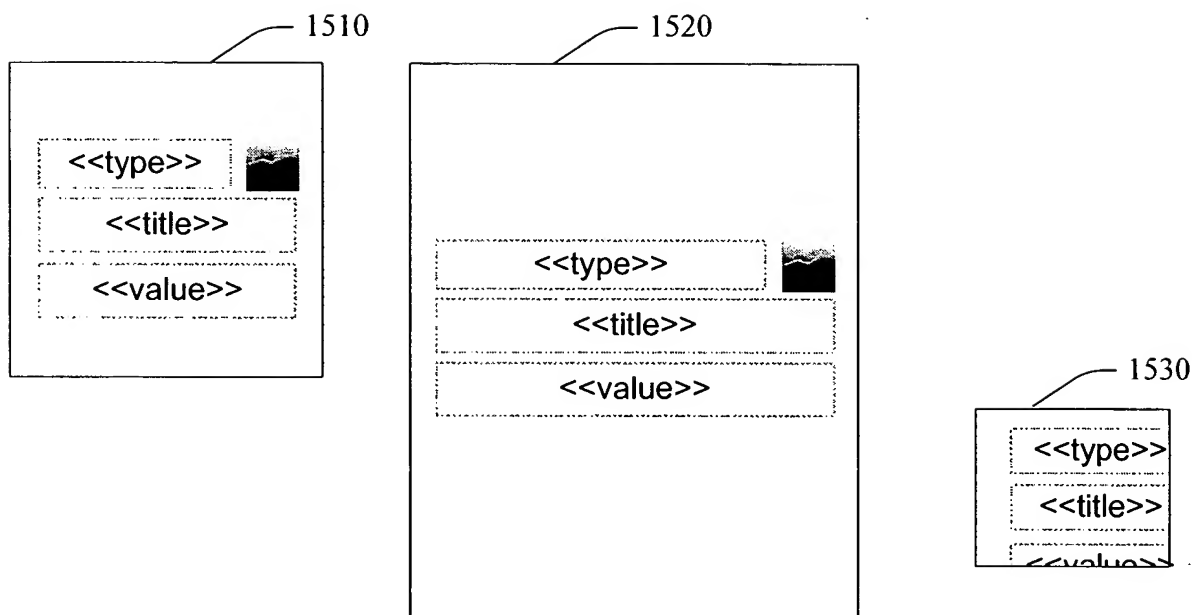


FIG. 13

AssociatedIMSProperty
-propDesc : IMSPropertyDescriptor = null -store : Store = null #OnPropertyChangedHandler : ElementAttributeChangedEventHandler = null
-AssociatedIMSProperty() +AssociatedIMSProperty(in store : Store, in metaAttributeGuid : Guid) +GetValue(in parentShape : Shape) : object #PropertyDescriptor() : IMSPropertyDescriptor +SubscribeToPropertyChangedEvent() +UnsubscribeFromPropertyChangedEvent() -OnPropertyChanged(in e : ElementAttributeChangedEventArgs)

FIG. 14



**FIG. 15**

# BoundsBehavior

```

+leftAnchor : AnchorTarget
+rightAnchor : AnchorTarget
+bottomAnchor : AnchorTarget
+topAnchor : AnchorTarget
+horizontalSprings : Suspension
+verticalSprings : Suspension
+master : ShapeField
-minimumWidth : float
-minimumWidthInCharacters : float
-minimumHeight : float
-minimumHeightInLines : float

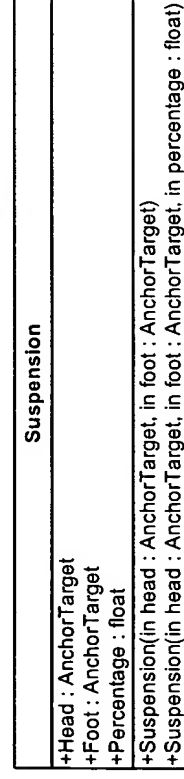
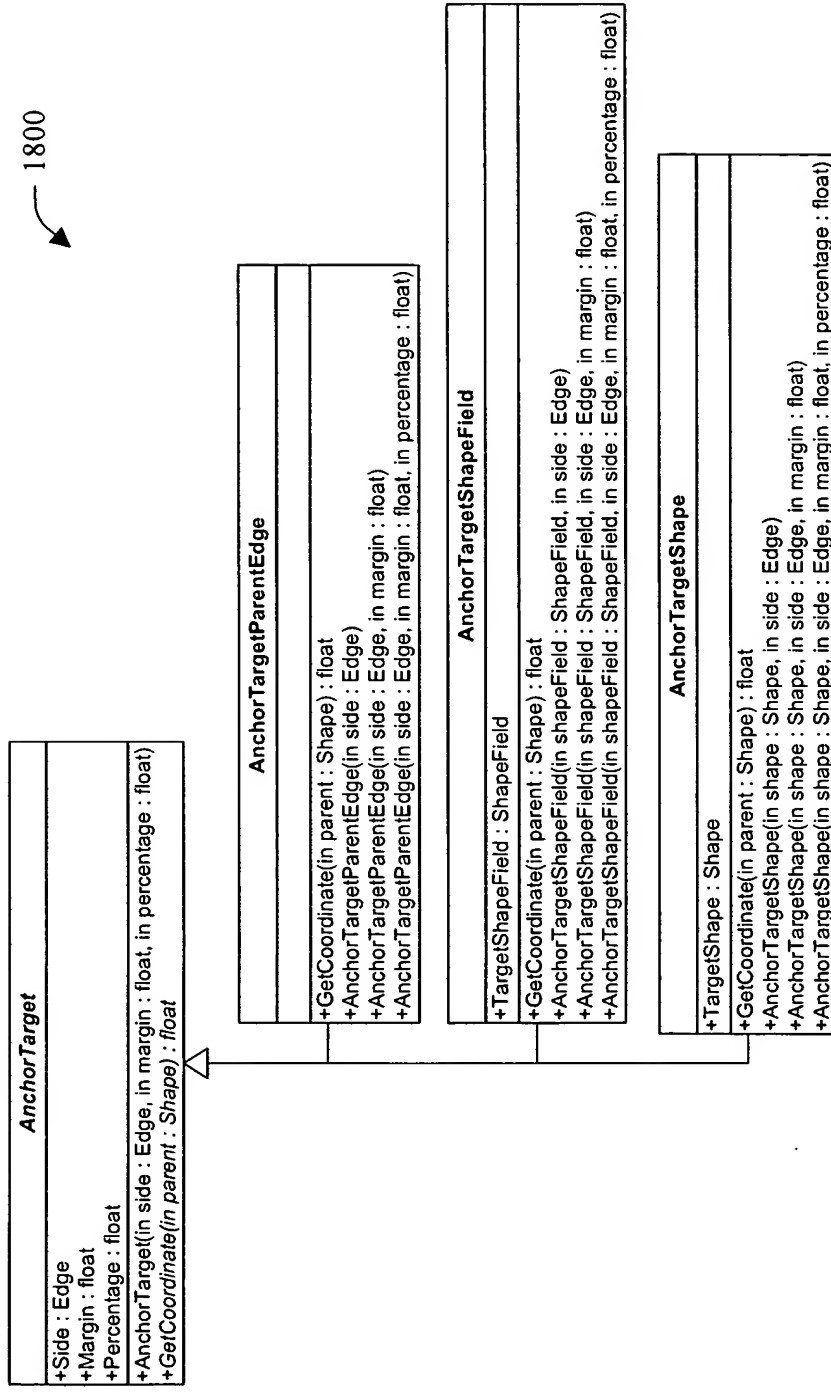
+MinimumWidth() : float
+MinimumWidthInCharacters() : float
+MinimumHeight() : float
+MinimumHeightInLines() : float
-isHorizontalCyclic(in sibling : ShapeField) : bool
-isVerticalCyclic(in sibling : ShapeField) : bool
+BoundsBehavior(in shapeField : ShapeField)
+SetLeftAnchor(in side : Edge, in margin : float)
+SetLeftAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetLeftAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetLeftAnchor(in side : Edge, in margin : float, in percentage : float)
+SetLeftAnchor(in sibling : ShapeField, in side : Edge, in margin : float, in percentage : float)
+SetLeftAnchor(in sibling : Shape, in side : Edge, in margin : float, in percentage : float)
+SetRightAnchor(in side : Edge, in margin : float)
+SetRightAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetRightAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetRightAnchor(in side : Edge, in margin : float, in percentage : float)
+SetRightAnchor(in sibling : ShapeField, in side : Edge, in margin : float, in percentage : float)
+SetRightAnchor(in sibling : Shape, in side : Edge, in margin : float, in percentage : float)
+SetTopAnchor(in side : Edge, in margin : float)
+SetTopAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetTopAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetTopAnchor(in side : Edge, in margin : float, in percentage : float)
+SetTopAnchor(in sibling : ShapeField, in side : Edge, in margin : float, in percentage : float)
+SetTopAnchor(in sibling : Shape, in side : Edge, in margin : float, in percentage : float)
+SetBottomAnchor(in side : Edge, in margin : float)
+SetBottomAnchor(in sibling : ShapeField, in side : Edge, in margin : float)
+SetBottomAnchor(in sibling : Shape, in side : Edge, in margin : float)
+SetBottomAnchor(in side : Edge, in margin : float, in percentage : float)
+SetBottomAnchor(in sibling : ShapeField, in side : Edge, in margin : float, in percentage : float)
+SetBottomAnchor(in sibling : Shape, in side : Edge, in margin : float, in percentage : float)

```

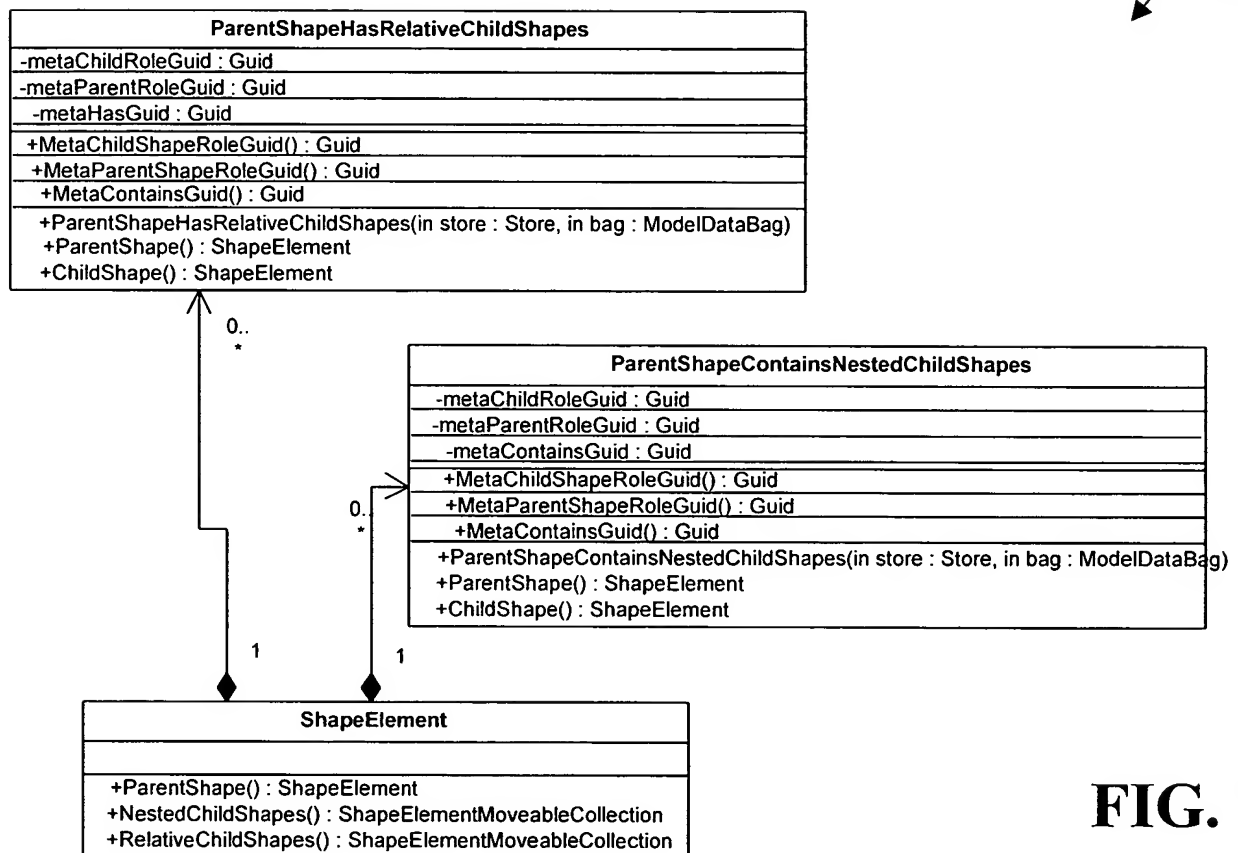
FIG.  
16



**FIG. 17**



**FIG. 18**



**FIG. 19**

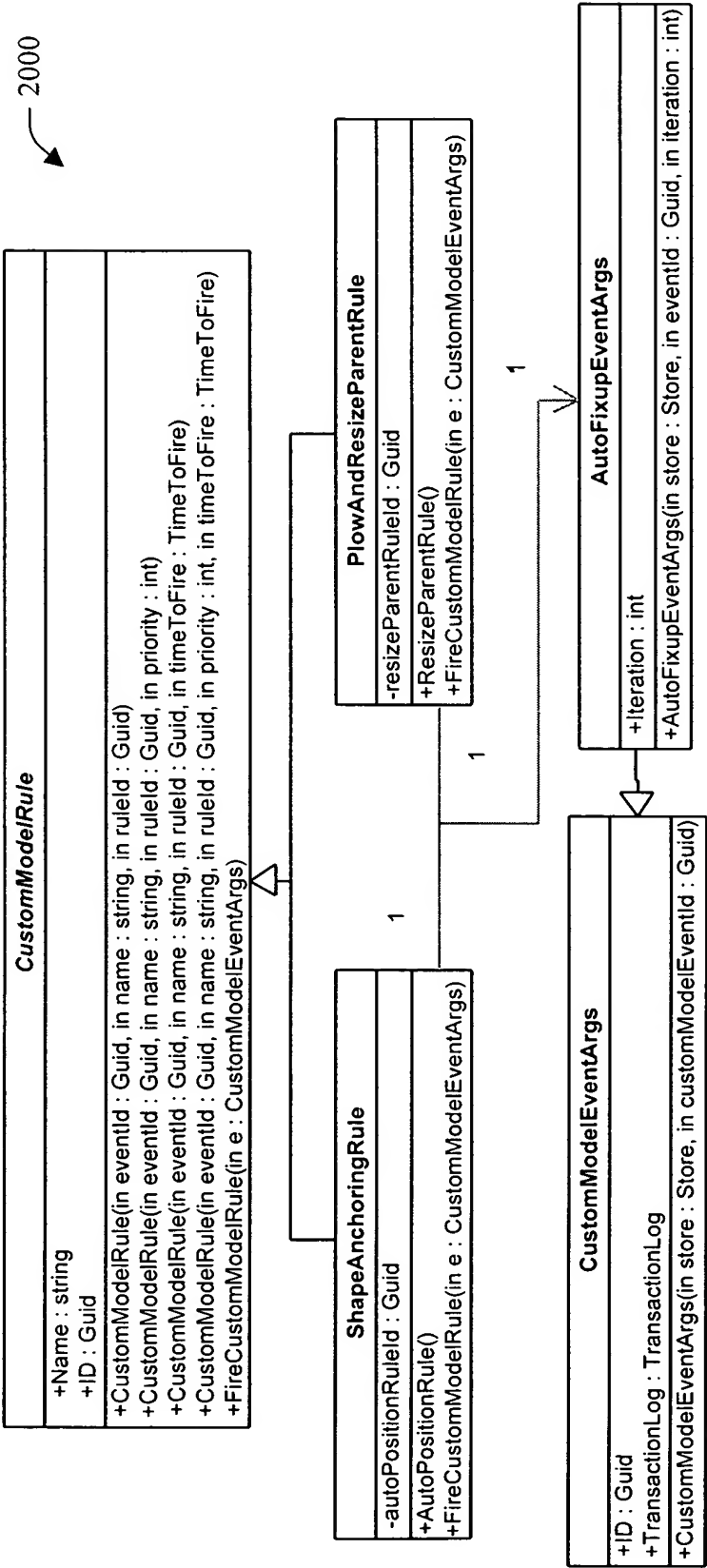
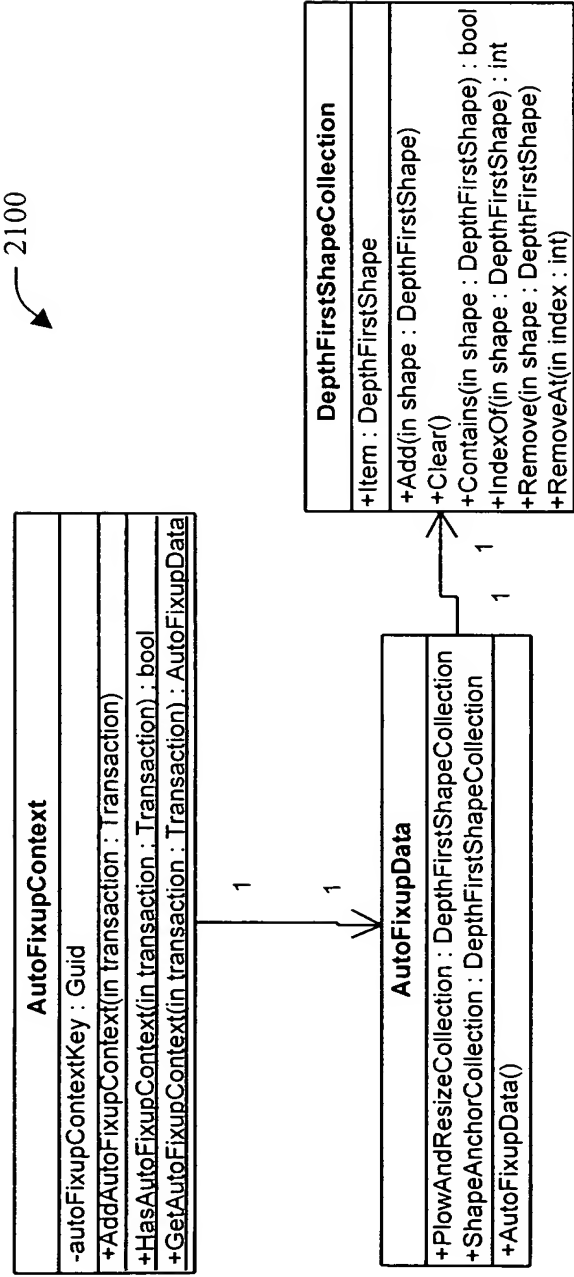
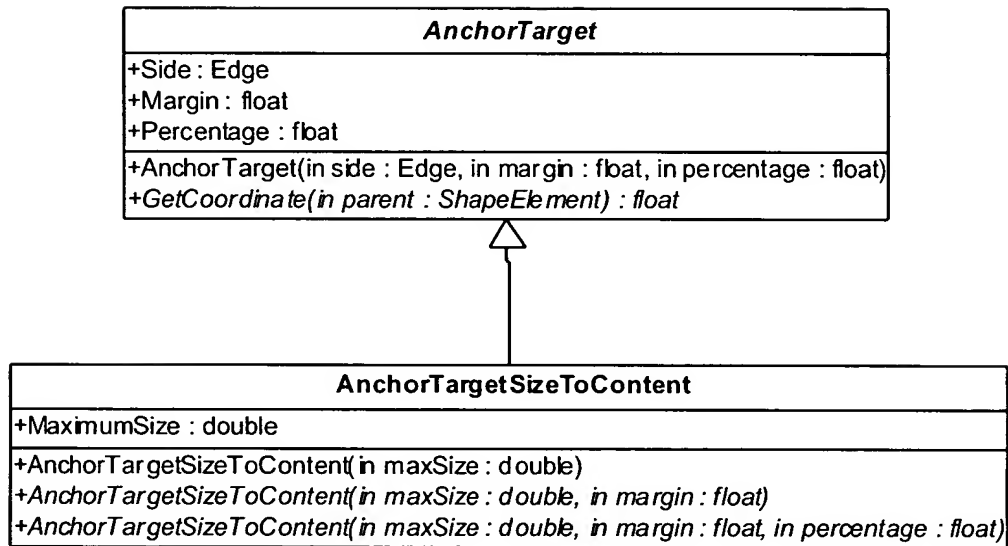


FIG. 20



**FIG. 21**

2200

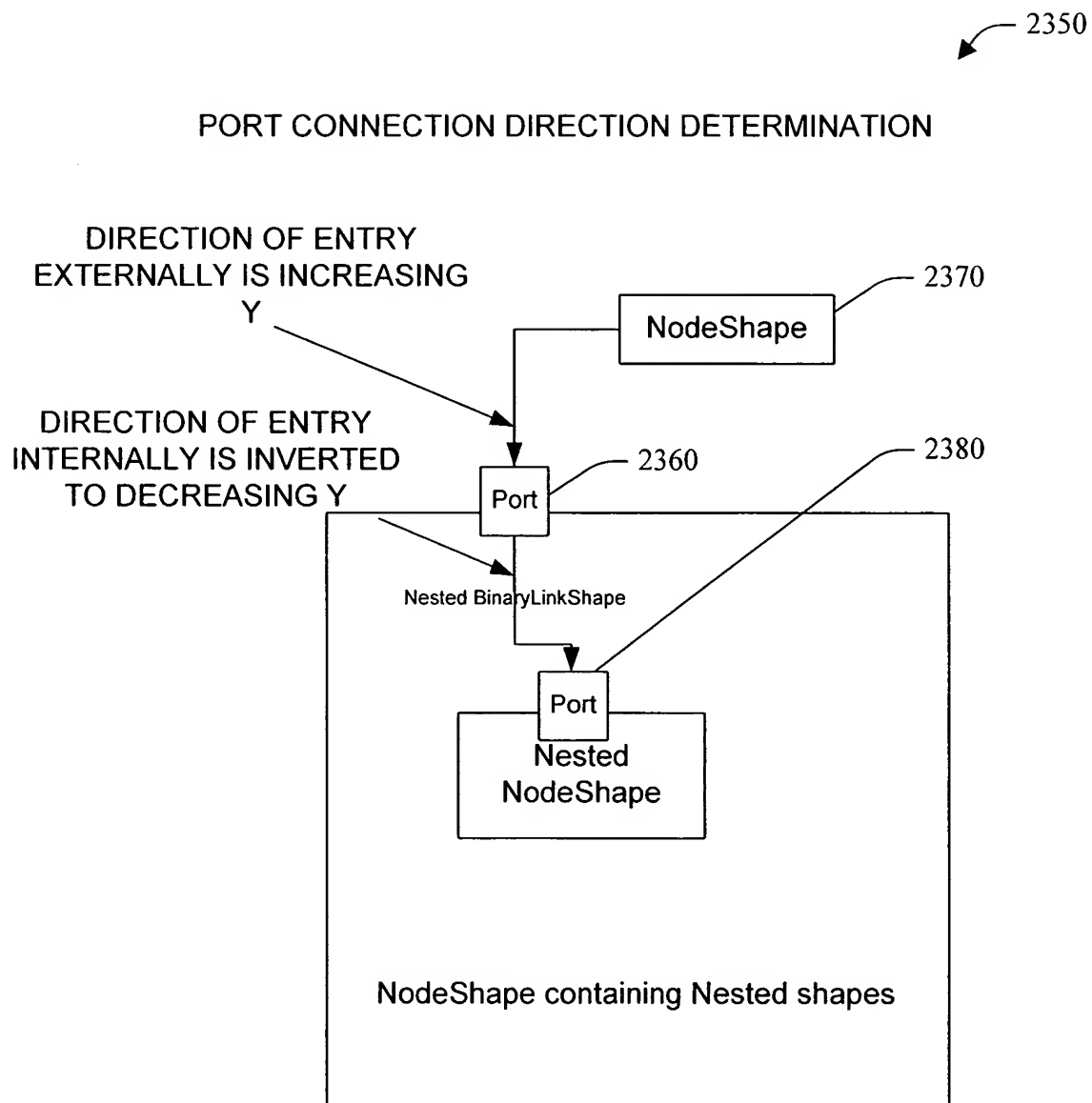


**FIG. 22**

2300

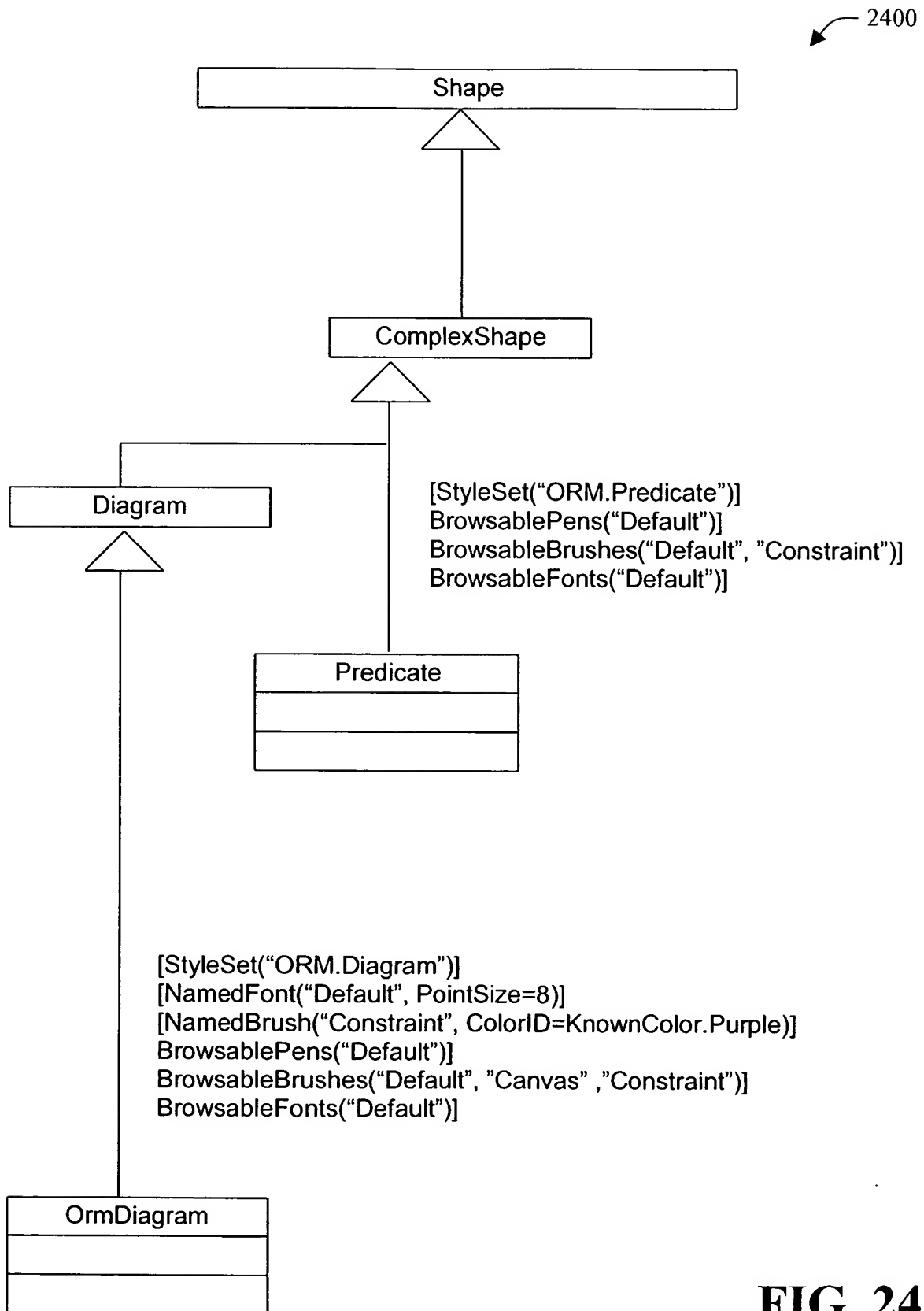
ShapeElement
+Visible : bool = true
+Collapse() +Expand()

**FIG. 23**

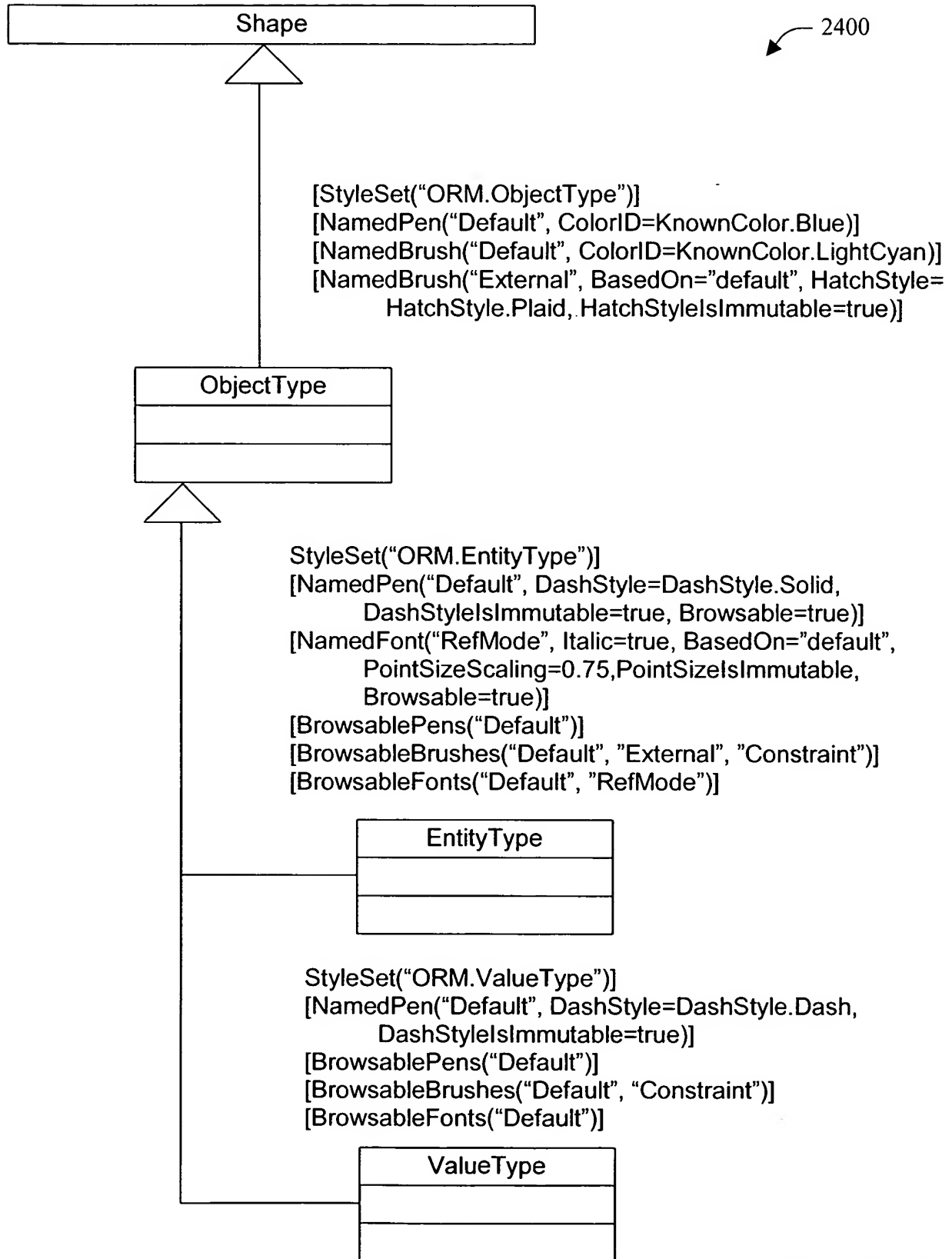


**FIG. 23A**

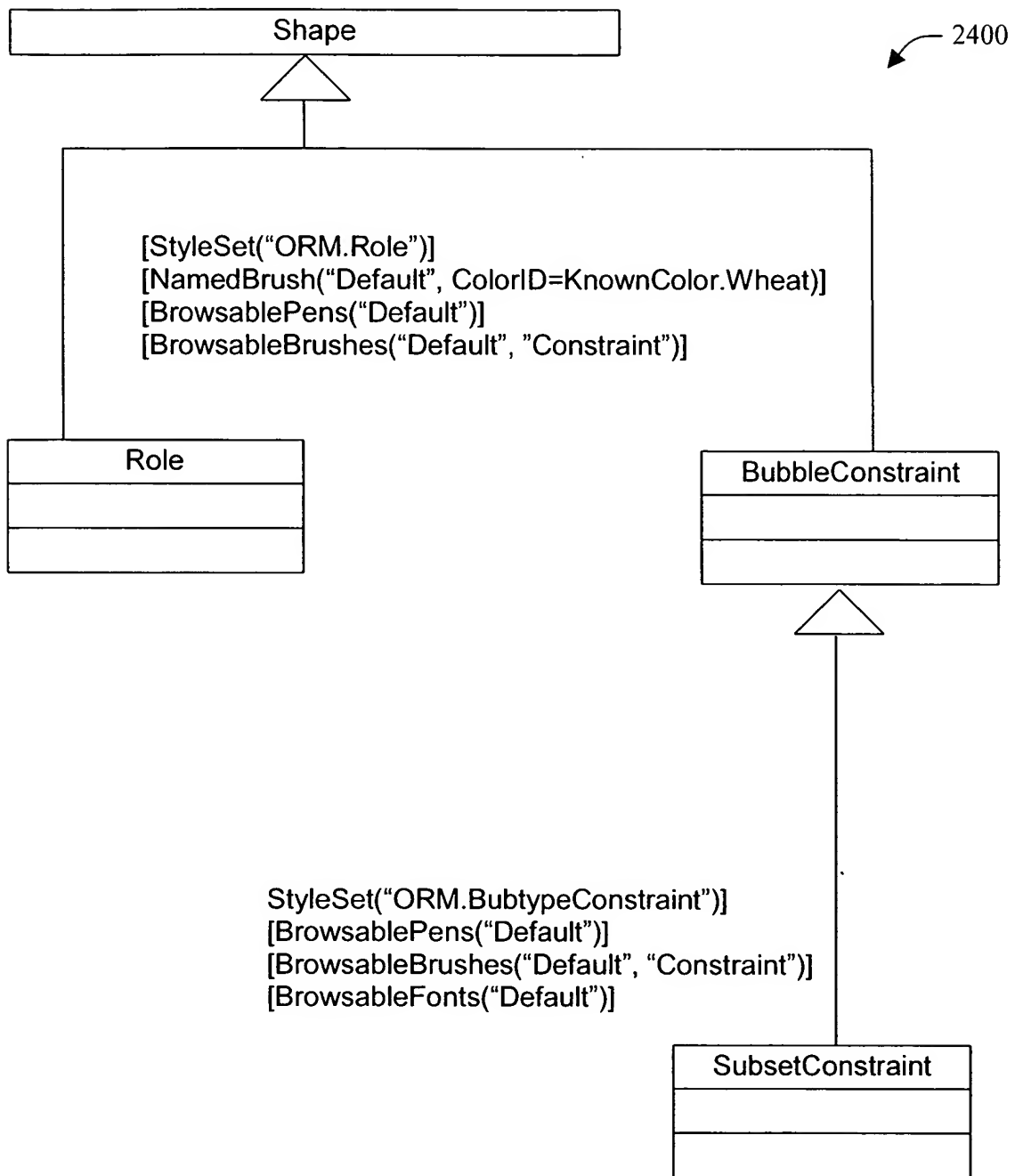




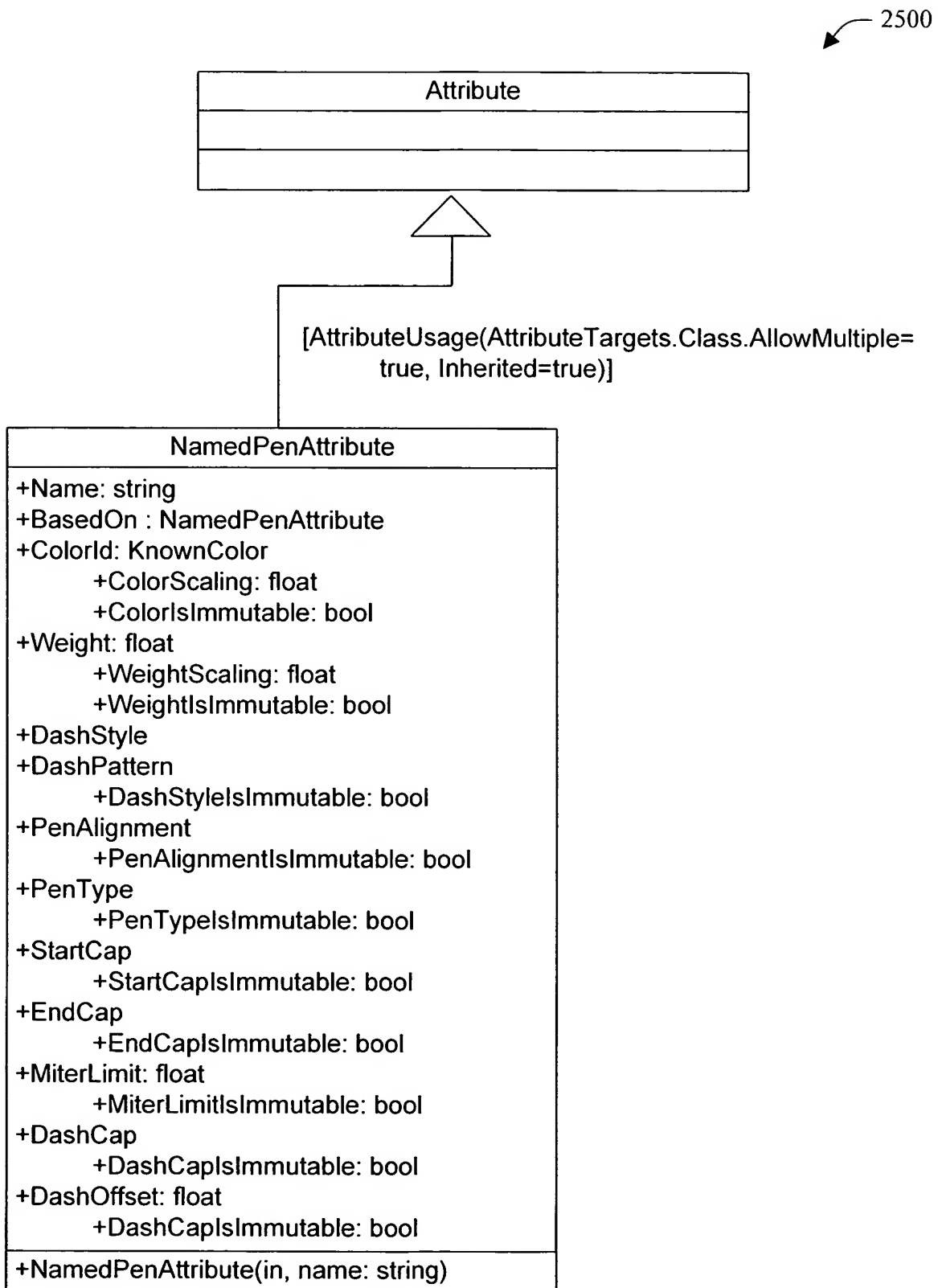
**FIG. 24A**



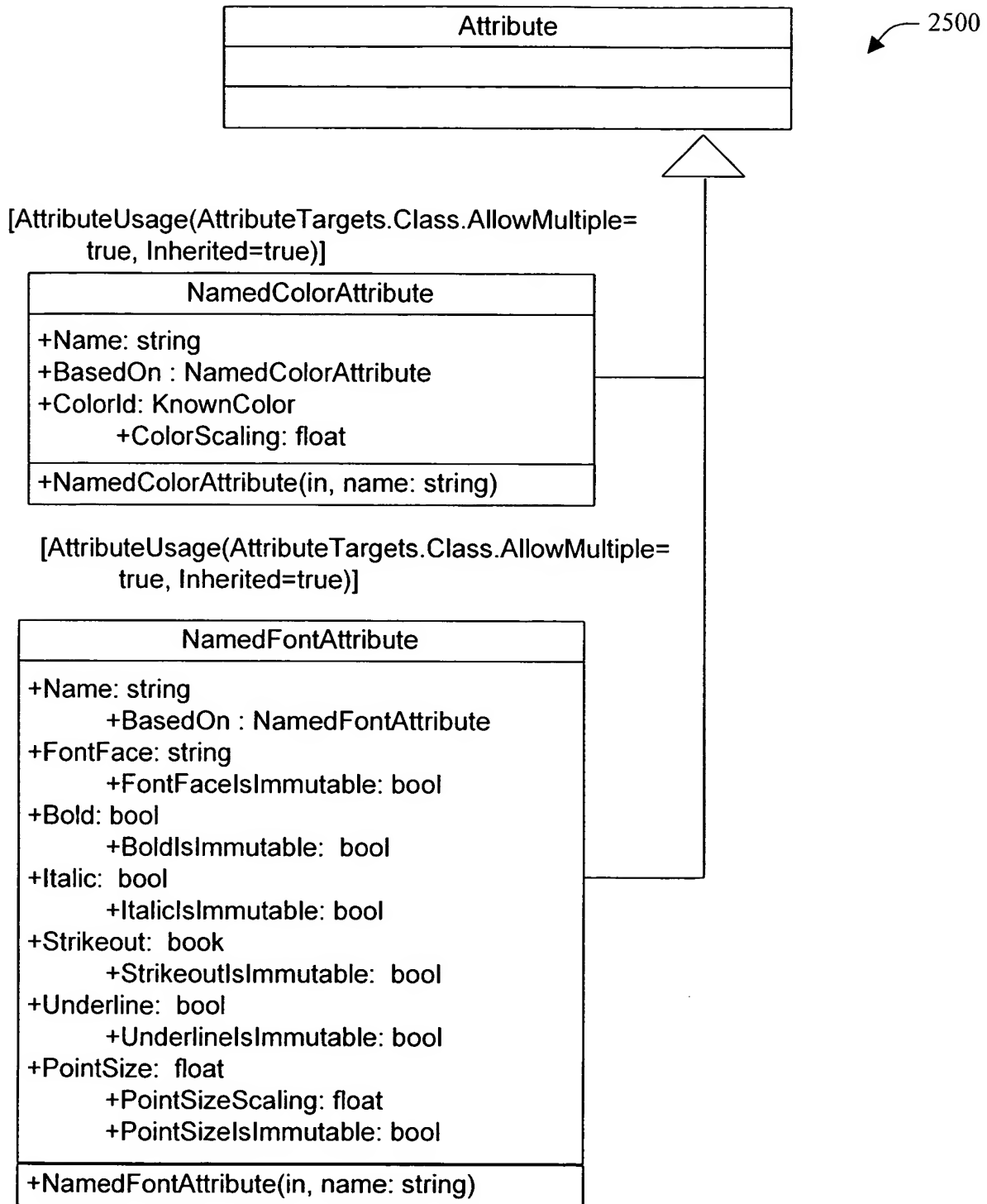
**FIG. 24B**



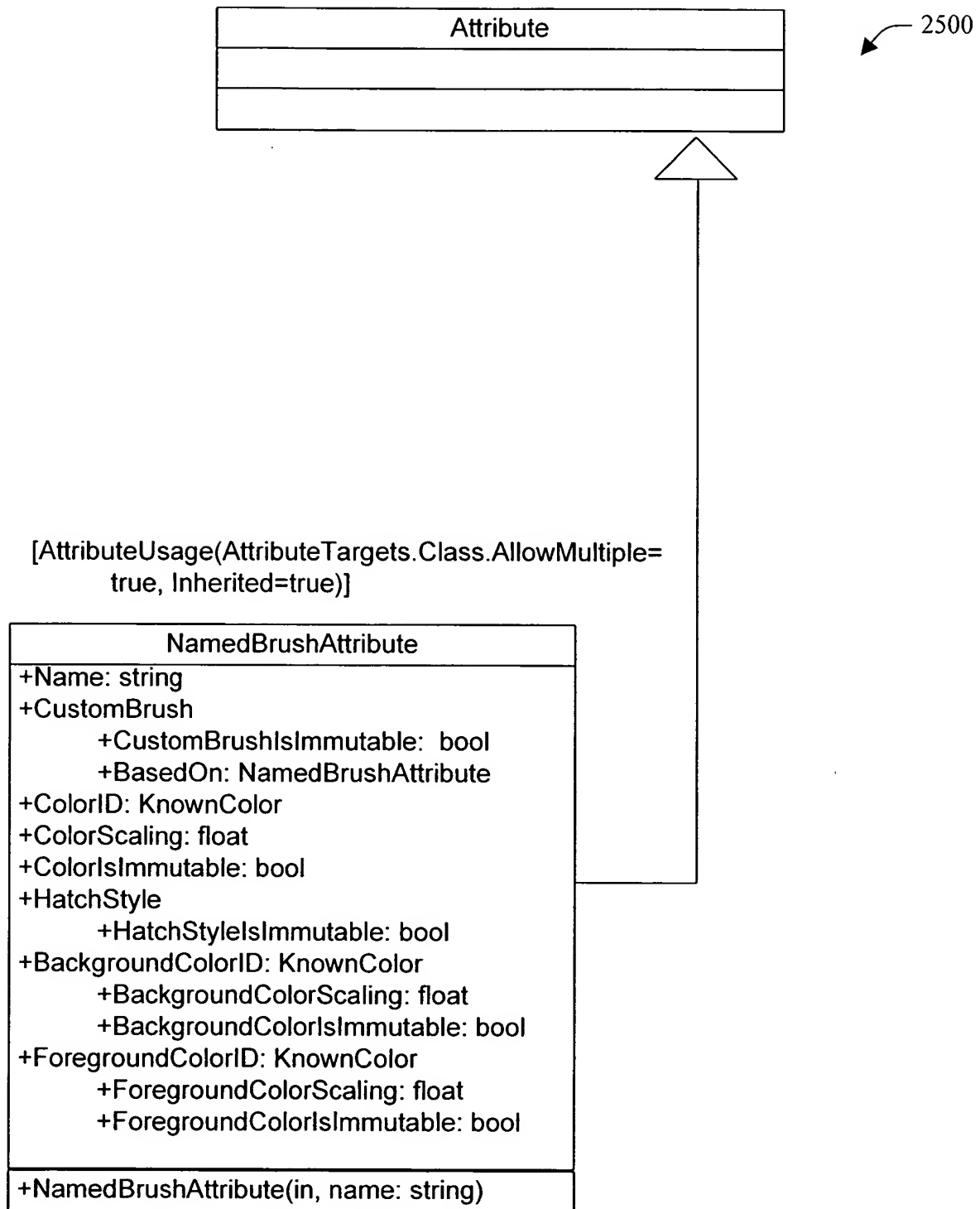
**FIG. 24C**



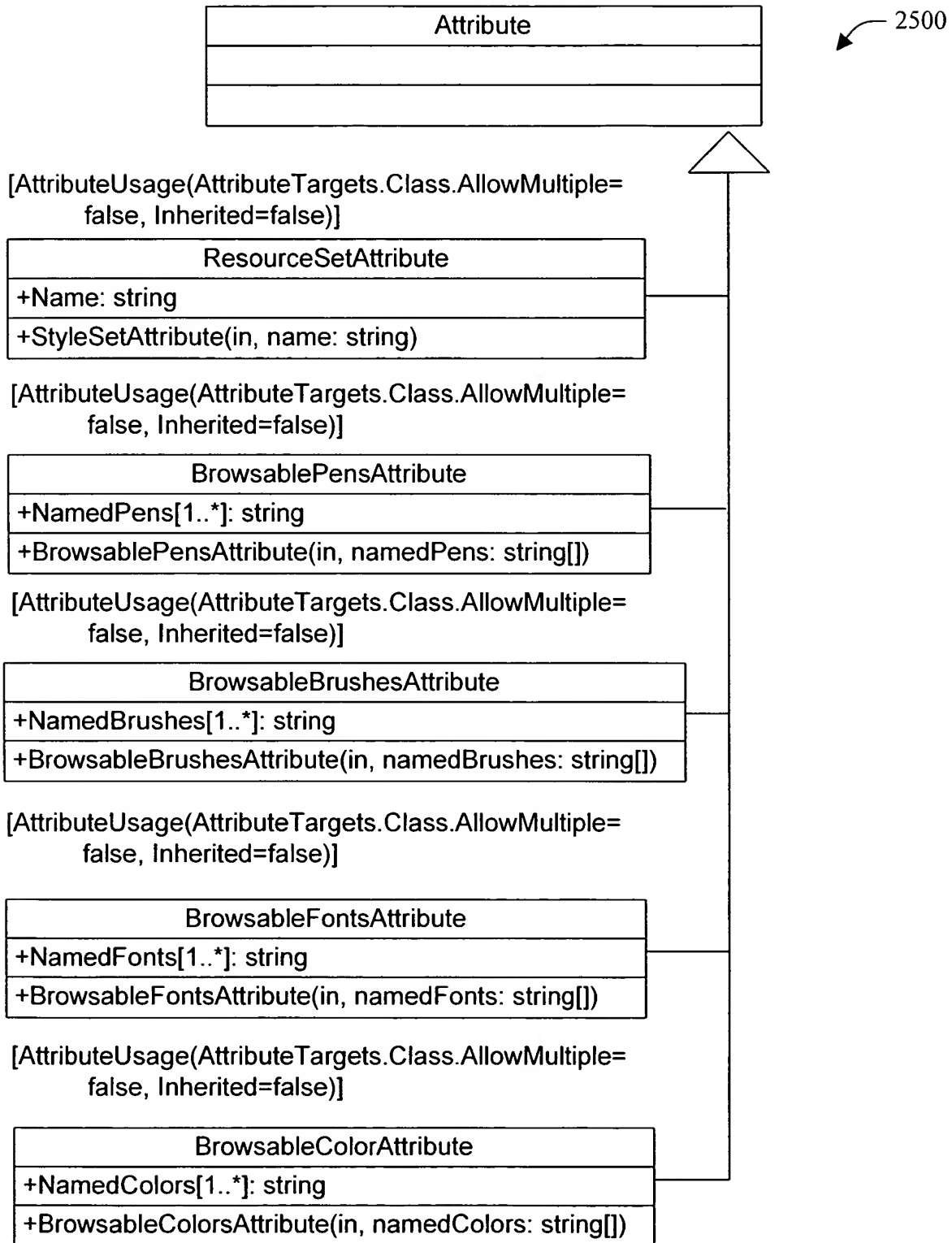
**FIG. 25A**



**FIG. 25B**



**FIG. 25C**



**FIG. 25D**

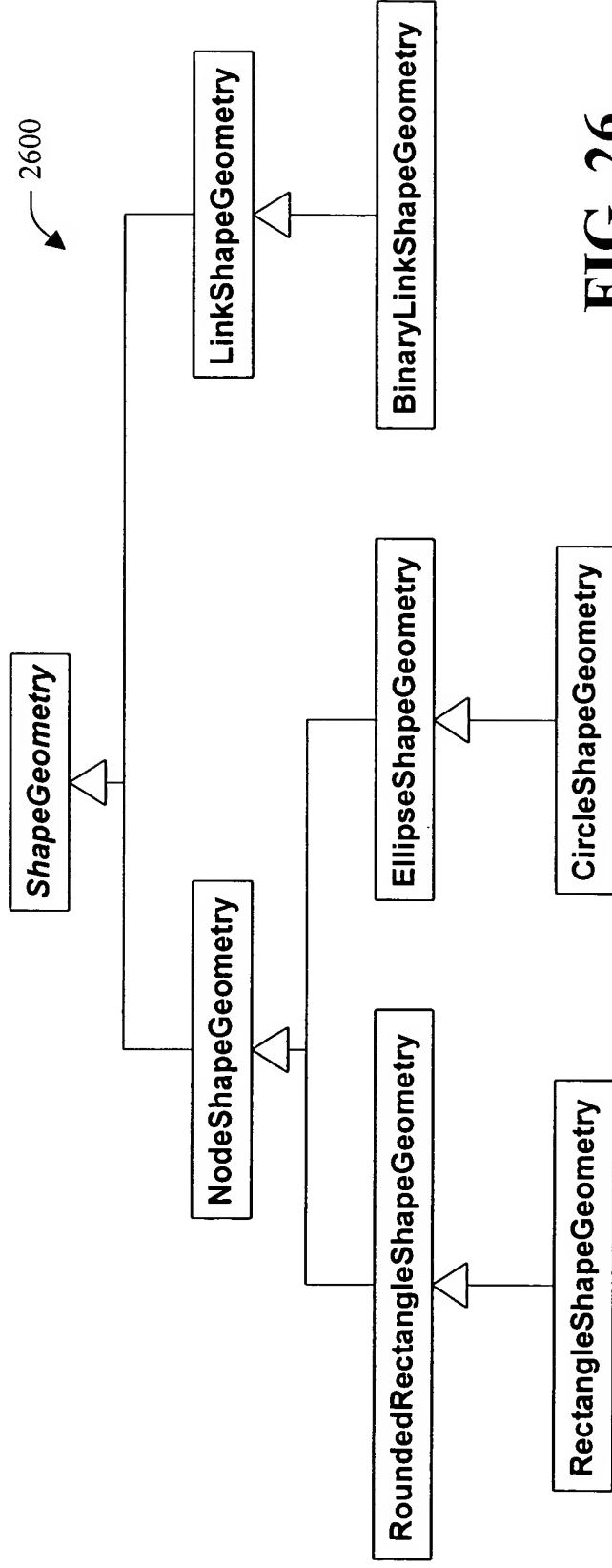
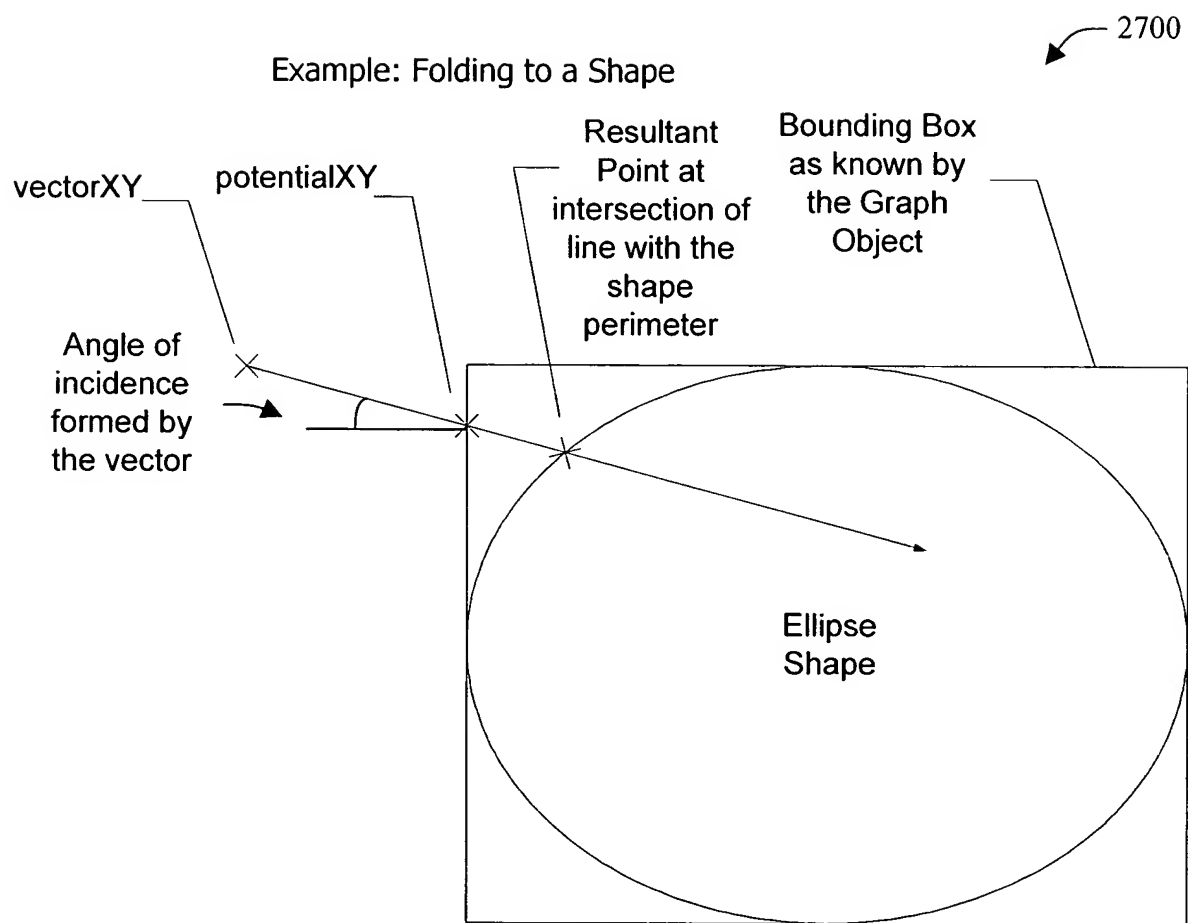


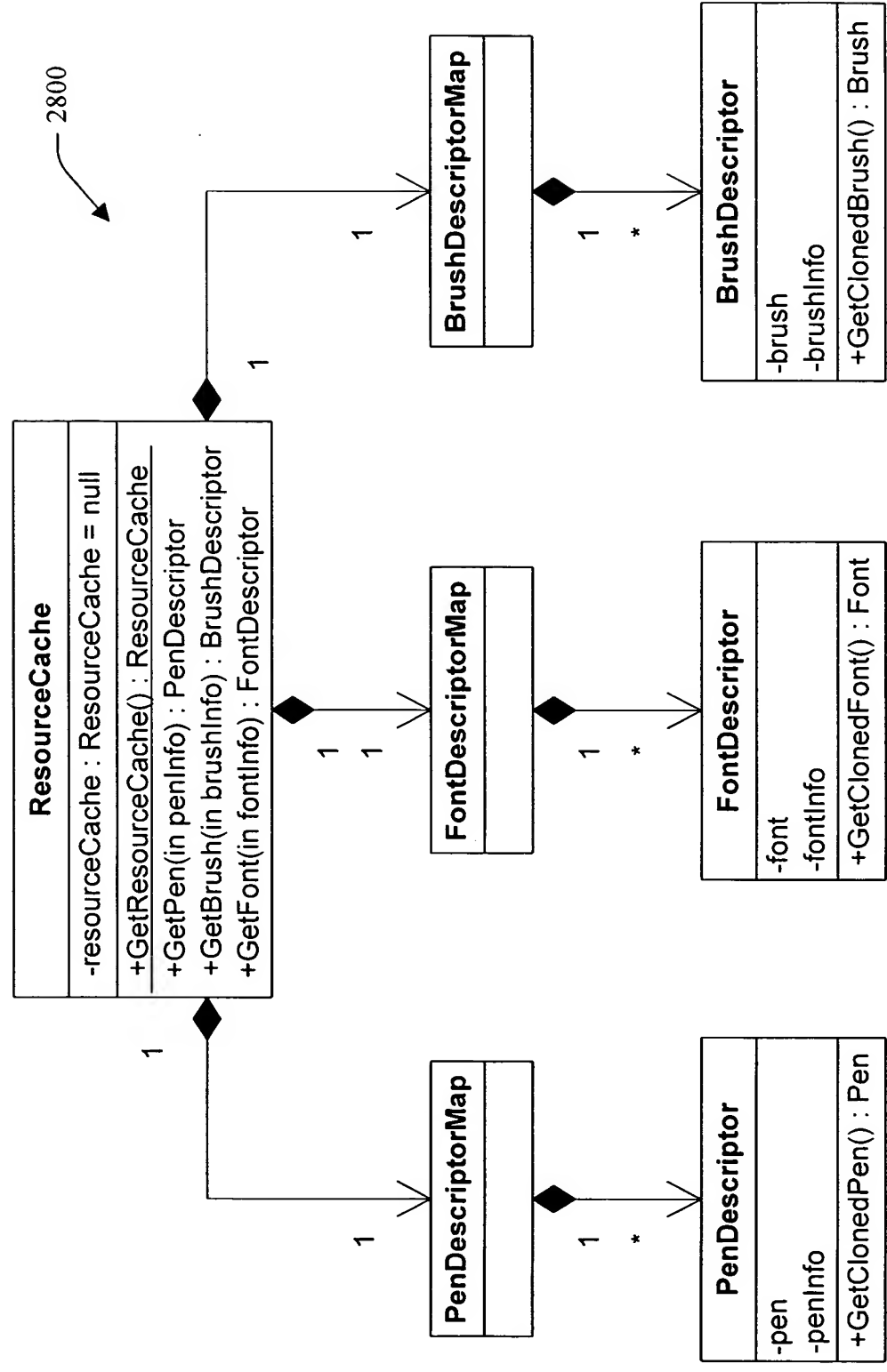
FIG. 26





**FIG. 27**

FIG. 28

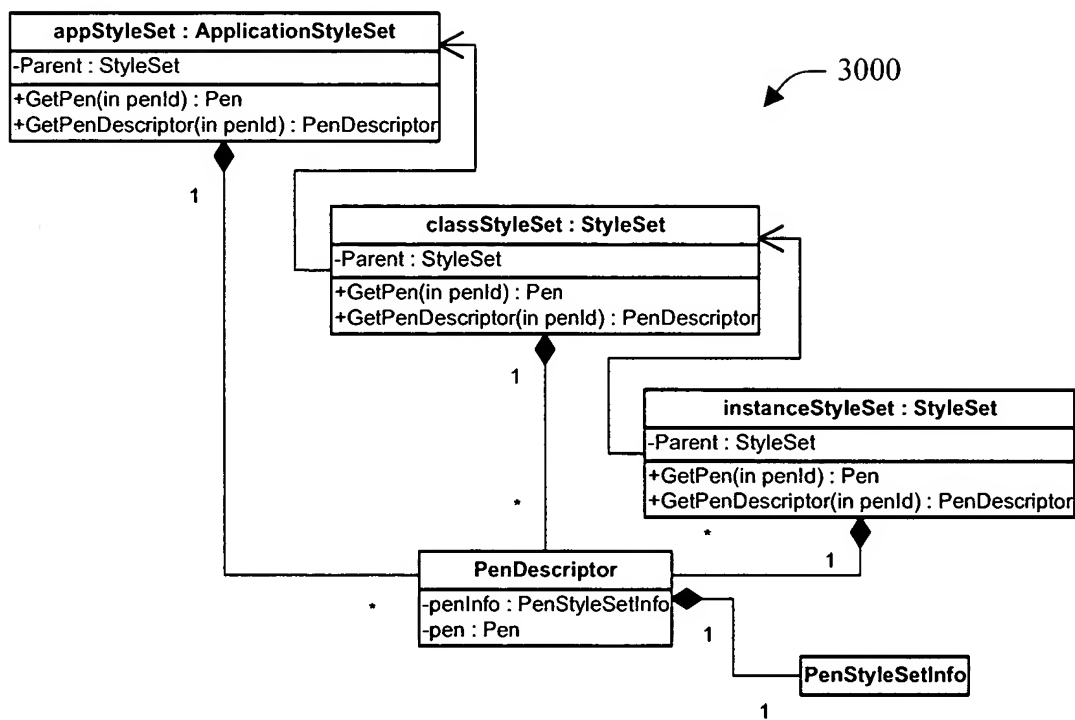


StyleSet
<div><div>-parent : StyleSet = null</div><div>+localNamedPens : NamedPenCollection = null</div><div>+localNamedBrushes : NamedBrushCollection = null</div><div>+localNamedFonts : NamedFontCollection = null</div><div>+StyleSet(in parent : StyleSet)</div><div>#Parent() : StyleSet</div><div>+GetPenDescriptor(in penID : DesignSurfaceResourceId) : PenDescriptor</div><div>+GetBrushDescriptor(in brushID : DesignSurfaceResourceId) : BrushDescriptor</div><div>+GetFontDescriptor(in fontID : DesignSurfaceResourceId) : FontDescriptor</div><div>#OverridePenWorker(in penID : DesignSurfaceResourceId, in basePenID : DesignSurfaceResourceId, in penSettings : PenSettings)</div><div>#OverrideBrushWorker(in brushID : DesignSurfaceResourceId, in baseBrushID : DesignSurfaceResourceId, in brushSettings : BrushSettings)</div><div>#OverrideFontWorker(in fontID : DesignSurfaceResourceId, in baseFontID : DesignSurfaceResourceId, in fontSettings : FontSettings)</div><div>+OverridePen(in penID : DesignSurfaceResourceId, in penSettings : PenSettings)</div><div>+OverrideBrush(in brushID : DesignSurfaceResourceId, in brushSettings : BrushSettings)</div><div>+OverrideFont(in fontID : DesignSurfaceResourceId, in fontSettings : FontSettings)</div><div>+ClearPenOverride(in penID : DesignSurfaceResourceId)</div><div>+ClearBrushOverride(in brushID : DesignSurfaceResourceId)</div><div>+ClearFontOverride(in fontID : DesignSurfaceResourceId)</div><div>+AddPen(in newPenID : DesignSurfaceResourceId, in basePenID : DesignSurfaceResourceId, in penSettings : PenSettings)</div><div>+AddBrush(in newBrushID : DesignSurfaceResourceId, in baseBrushID : DesignSurfaceResourceId, in brushSettings : BrushSettings)</div><div>+RemoveBrush(in brushID : DesignSurfaceResourceId)</div><div>+AddFont(in newFontID : DesignSurfaceResourceId, in baseFontID : DesignSurfaceResourceId, in fontSettings : FontSettings)</div><div>+RemoveFont(in fontID : DesignSurfaceResourceId)</div><div>+GetPen(in penID : DesignSurfaceResourceId) : Pen</div><div>+GetBrush(in brushID : DesignSurfaceResourceId) : Brush</div><div>+GetFont(in fontID : DesignSurfaceResourceId) : Font</div></div>



ApplicationStyleSet
<div><div>-theAppStyleSet : ApplicationStyleSet = null</div><div>+ApplicationStyleSet(in parent : StyleSet)</div><div>+StyleSet() : ApplicationStyleSet</div><div>-InitializeDefaultPens()</div><div>-InitializeDefaultBrushes()</div><div>-InitializeDefaultFonts()</div></div>

FIG. 29



**FIG. 30**

3100

<i>ShapeSubField</i>
<i>+ShapeSubField()</i> <i>+GetFocusable(in parentShape : ShapeElement, in parentField : ShapeField) : bool</i> <i>+GetSelectable(in parentShape : ShapeElement, in parentField : ShapeField) : bool</i> <i>+GetPotentialMouseAction(in mouseButtons : MouseButtons, in point : PointD, in hitTestInfo : DiagramHitTestInfo) : MouseAction</i> <i>+OnKeyDown(in keyArgs : DiagramKeyEventArgs)</i> <i>+OnKeyUp(in keyArgs : DiagramKeyEventArgs)</i> <i>+OnKeyPress(in keyPressArgs : DiagramKeyPressEventArgs)</i>

**FIG. 31**

3200

DiagramItem
-shape : ShapeElement = null -field : ShapeField = null -subField : ShapeSubField = null
+DiagramItem() +DiagramItem(in shape : ShapeElement) +DiagramItem(in shape : ShapeElement, in field : ShapeField) +DiagramItem(in shape : ShapeElement, in field : ShapeField, in subField : ShapeSubField) +Shape() : ShapeElement +Field() : ShapeField +SubField() : ShapeSubField +SetItem(in shape : ShapeElement) +SetItem(in shape : ShapeElement, in field : ShapeField) +SetItem(in shape : ShapeElement, in field : ShapeField, in subField : ShapeSubField) +CanSelect() : bool

FIG. 32

3300

DiagramHitTestInfo
-diagramClientView : DiagramClientView = null
-hitItem : DiagramItem = null
-hitGrabHandle : GrabHandle = null
-emptyHitItem : DiagramItem = new DiagramItem()
+DiagramHitTestInfo(in diagramClientView : DiagramClientView)
+DiagramClientView() : DiagramClientView
+HitDiagramItem() : DiagramItem
+HitGrabHandle() : GrabHandle

FIG. 33

3400

<i>ShapeField</i>
+DoPaint(in e : DiagramPaintEventArgs, in parentShape : ShapeElement)
+DoHitTest(in point : PointD, in parentShape : ShapeElement, in diagramHitTestInfo : DiagramHitTestInfo)

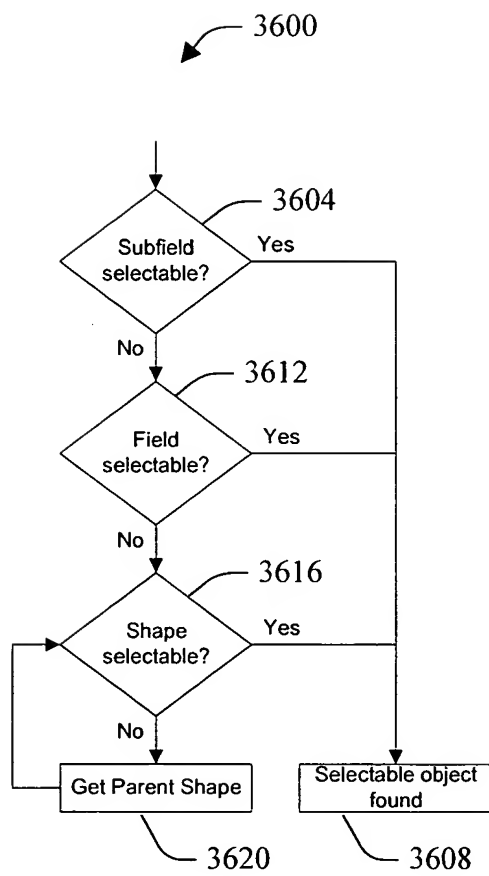
**FIG. 34**



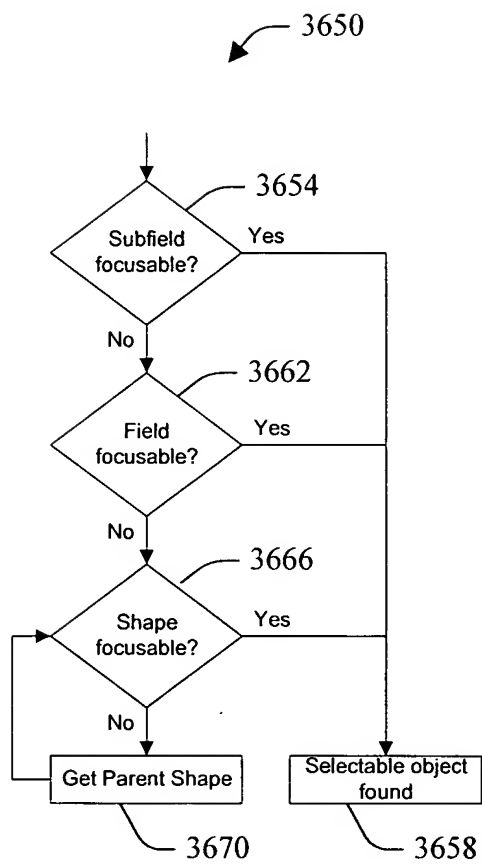
3500

SelectedShapesCollection
-diagramItemCollection : DiagramItemCollection = new DiagramItemCollection() -selectionChanging : bool = false -diagramClientView : DiagramClientView = null -focusedItem : DiagramItem = null -anchorItem : DiagramItem = null
+SelectedShapesCollection(in diagramClientView : DiagramClientView) +PrimaryItem() : DiagramItem +FocusedItem() : DiagramItem +AnchorItem() : DiagramItem +Add(in diagramItem : DiagramItem) +Remove(in diagramItem : DiagramItem) +Set(in diagramItem : DiagramItem) +Add(in diagramItems : DiagramItemCollection) +Remove(in diagramItems : DiagramItemCollection) +Set(in diagramItems : DiagramItemCollection) +Toggle(in diagramItems : DiagramItemCollection) +Clear() +Contains(in diagramItem : DiagramItem) : bool -Invalidate() +Count() : int

FIG. 35



**FIG. 36A**



**FIG. 36B**

3700

DiagramSelectionRules
+DiagramSelectionRules() +GetCompliantSelection(in currentSelection : SelectedShapesCollection, in proposedItemsToAdd : DiagramItemCollection, in proposedItemsToRemove : DiagramItemCollection, in primaryItem : DiagramItem) : bool

FIG. 37

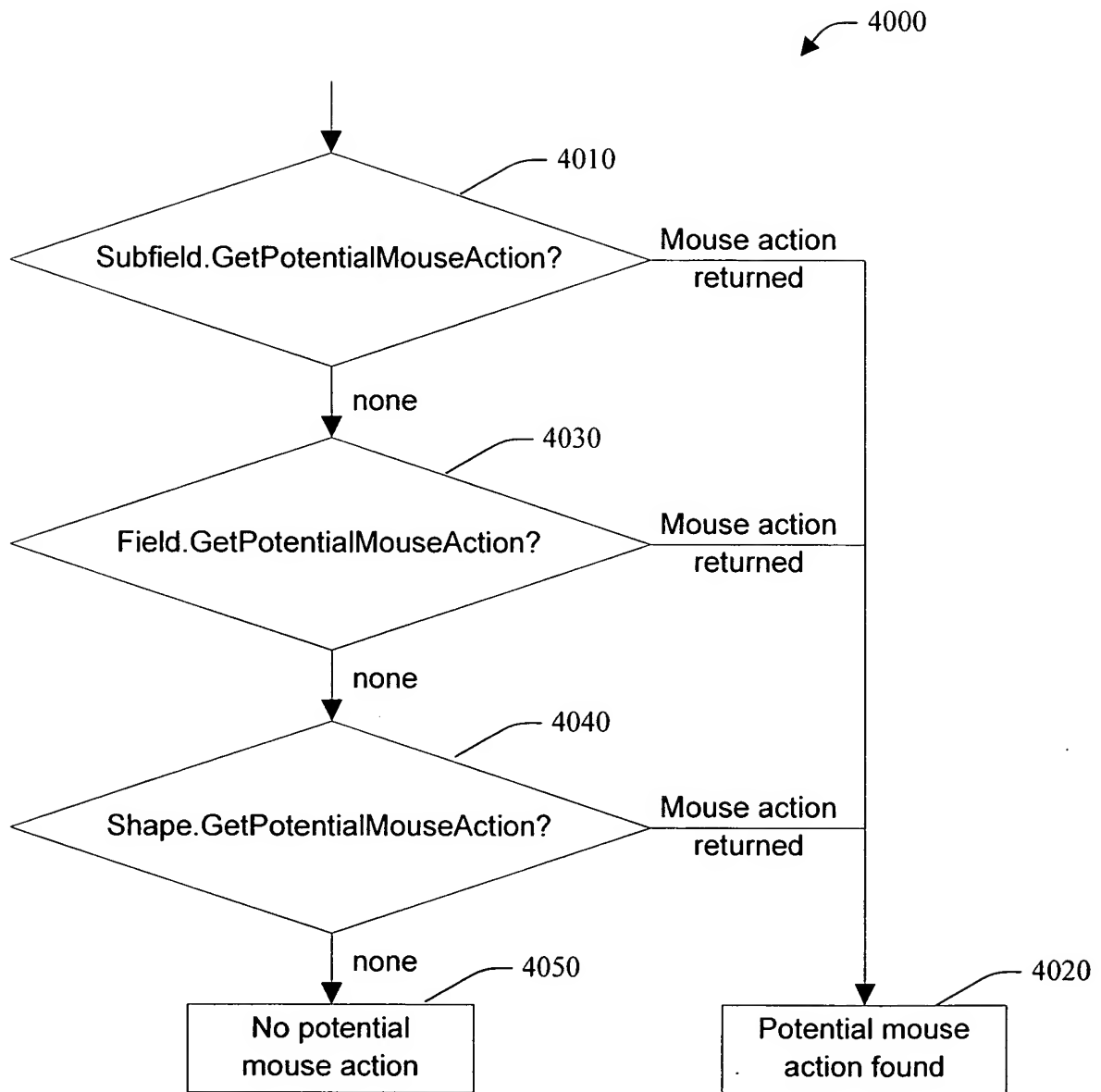
3800

SelectedShapesCollection
+SelectedShapesCollection(in diagramClientView : DiagramClientView) +PrimaryItem() : DiagramItem +FocusedItem() : DiagramItem +AnchorItem() : DiagramItem

**FIG. 38**

ShapeSubField
<div>+ShapeSubField() +GetFocusable(<i>in parentShape</i> : ShapeElement, <i>in parentField</i> : ShapeField) : bool +GetSelectable(<i>in parentShape</i> : ShapeElement, <i>in parentField</i> : ShapeField) : bool +GetPotentialMouseAction(<i>in mouseButtons</i> : MouseButton, <i>in point</i> : PointD,     <i>in hitTestInfo</i> : DiagramHitTestInfo) : MouseAction +OnKeyDown(<i>in keyArgs</i> : DiagramKeyEventArgs) +OnKeyUp(<i>in keyArgs</i> : DiagramKeyEventArgs) +OnKeyPress(<i>in keyPressArgs</i> : DiagramKeyPressEventArgs)</div>

FIG. 39



**FIG. 40**

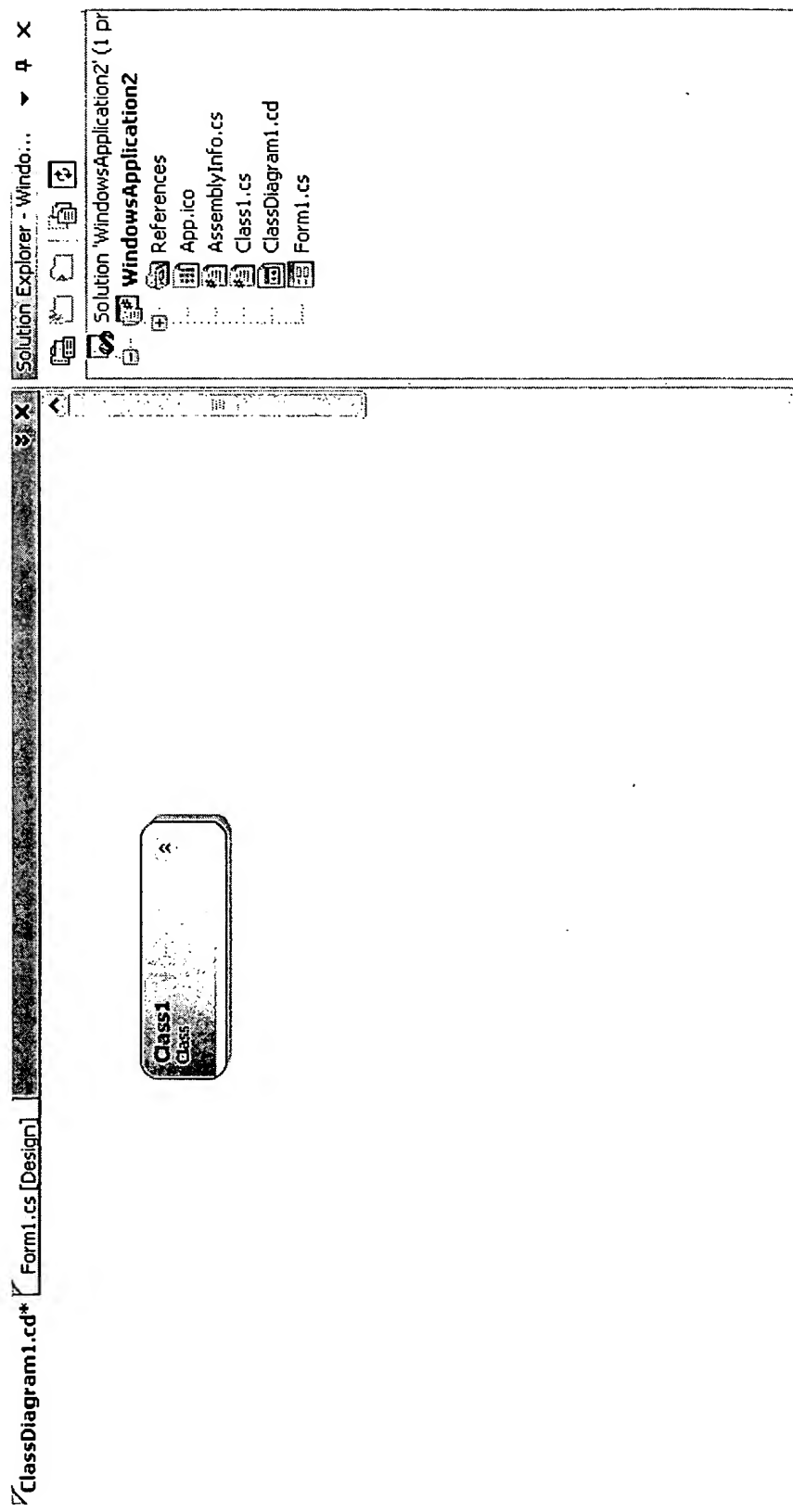


FIG. 41

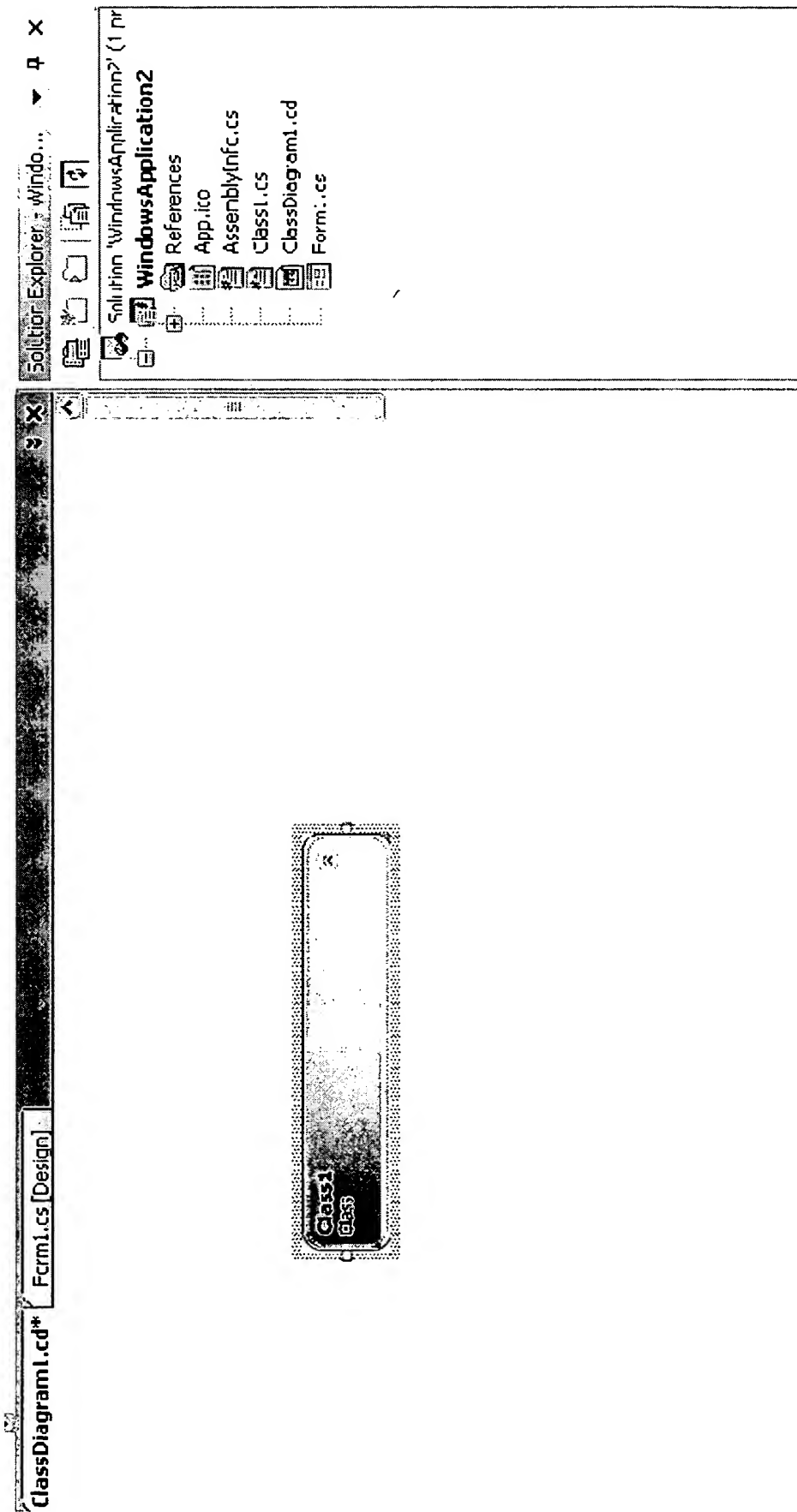


FIG. 42



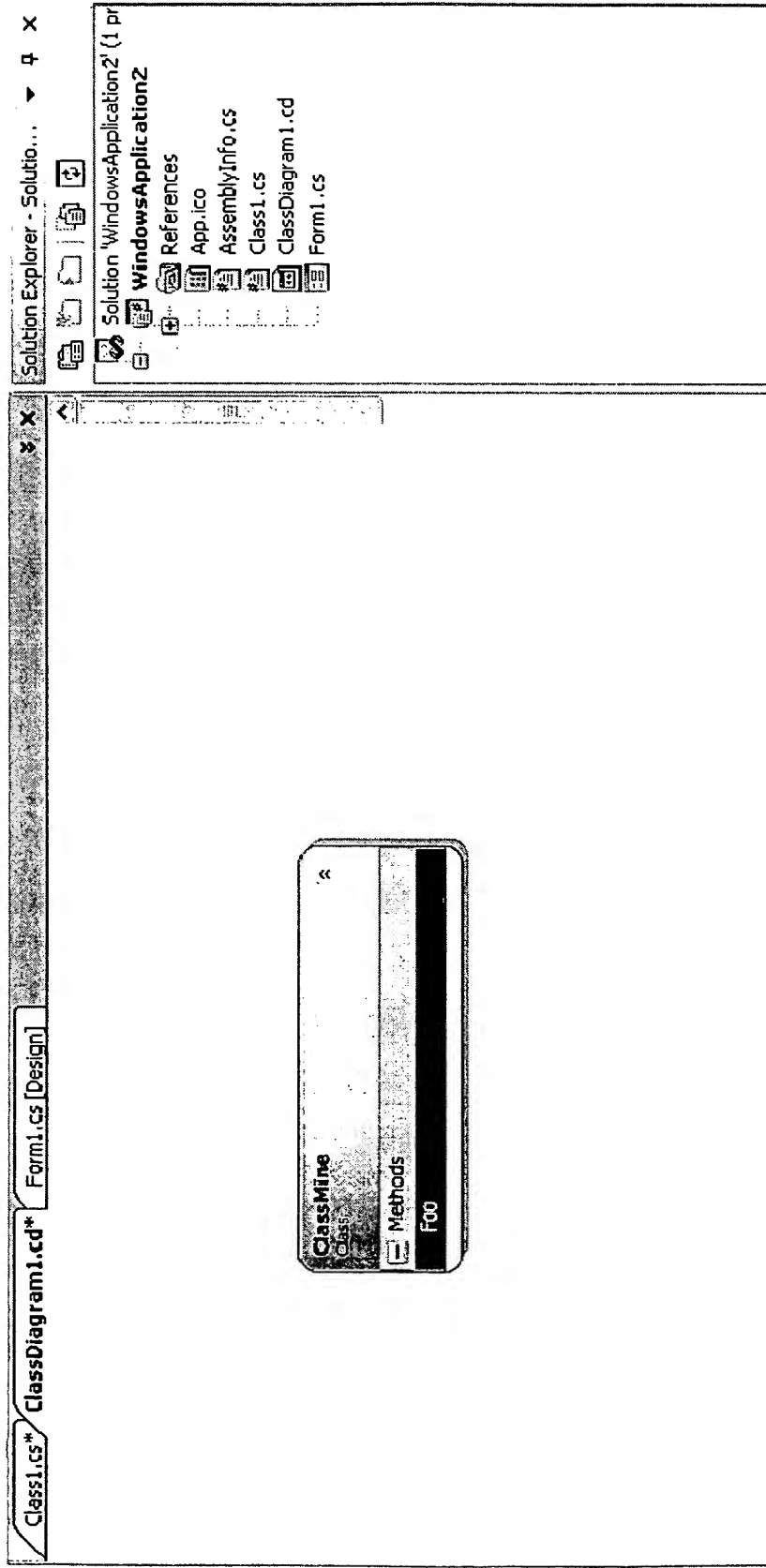


FIG. 43

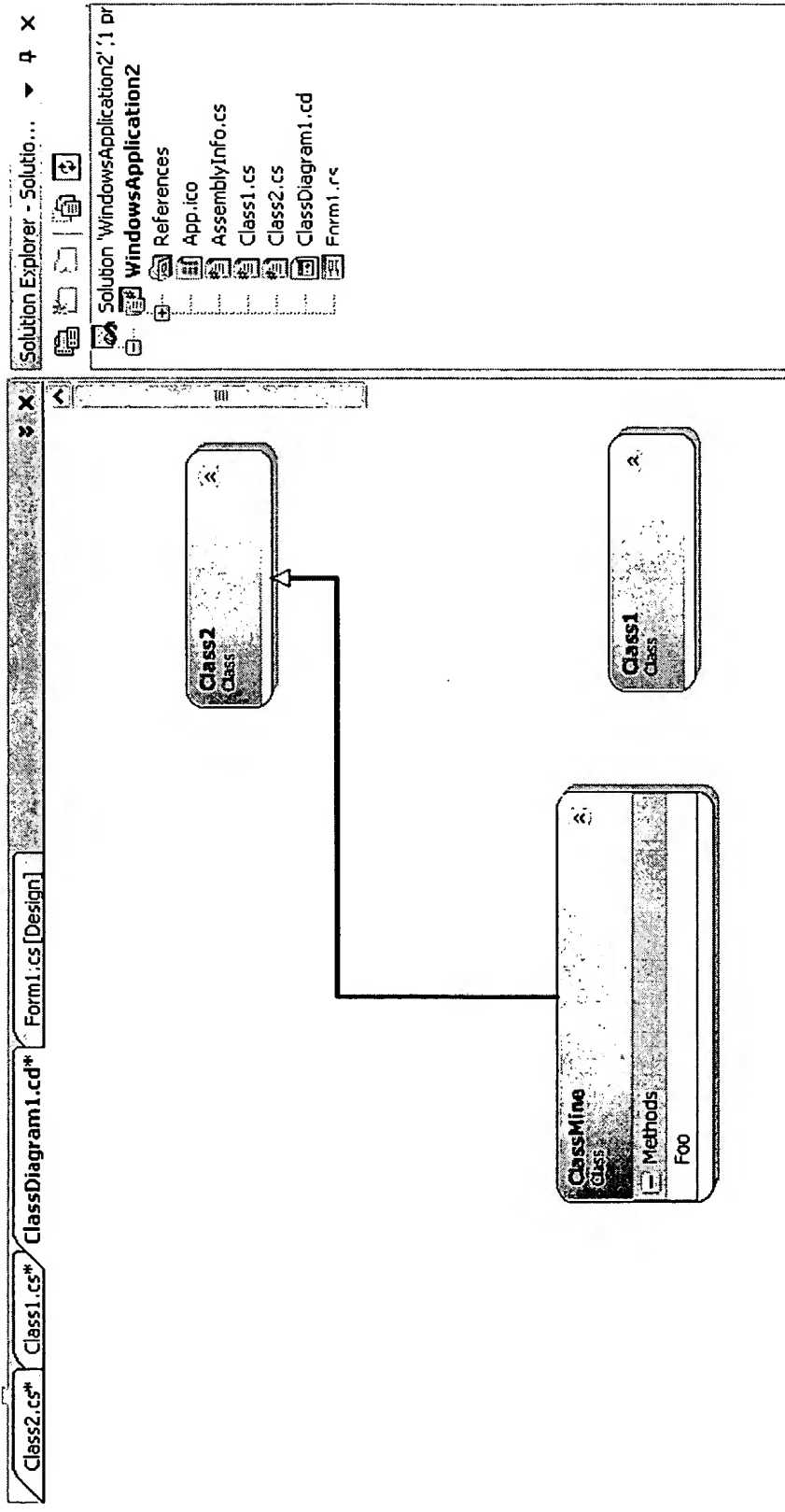


FIG. 44

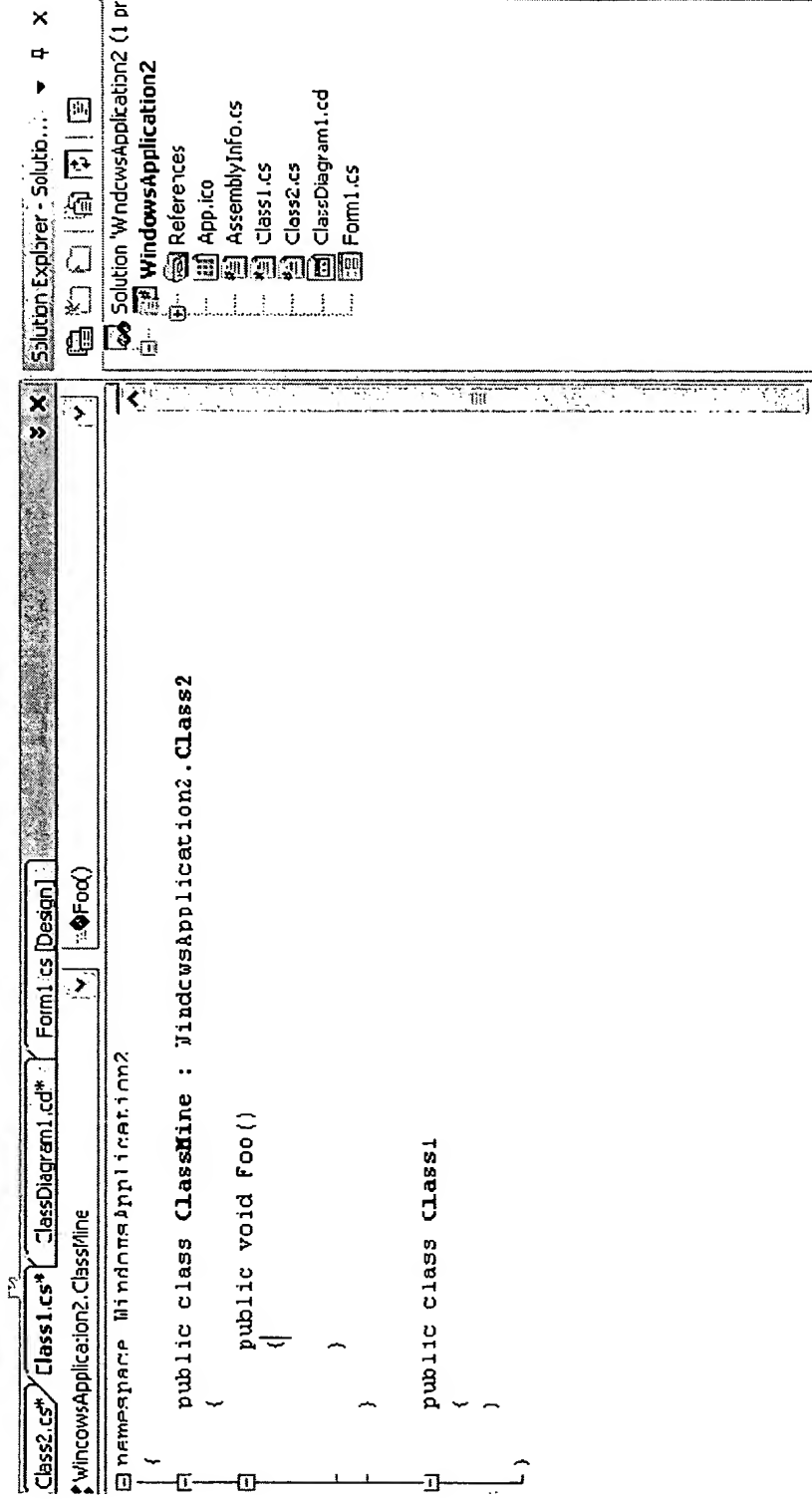


FIG. 45

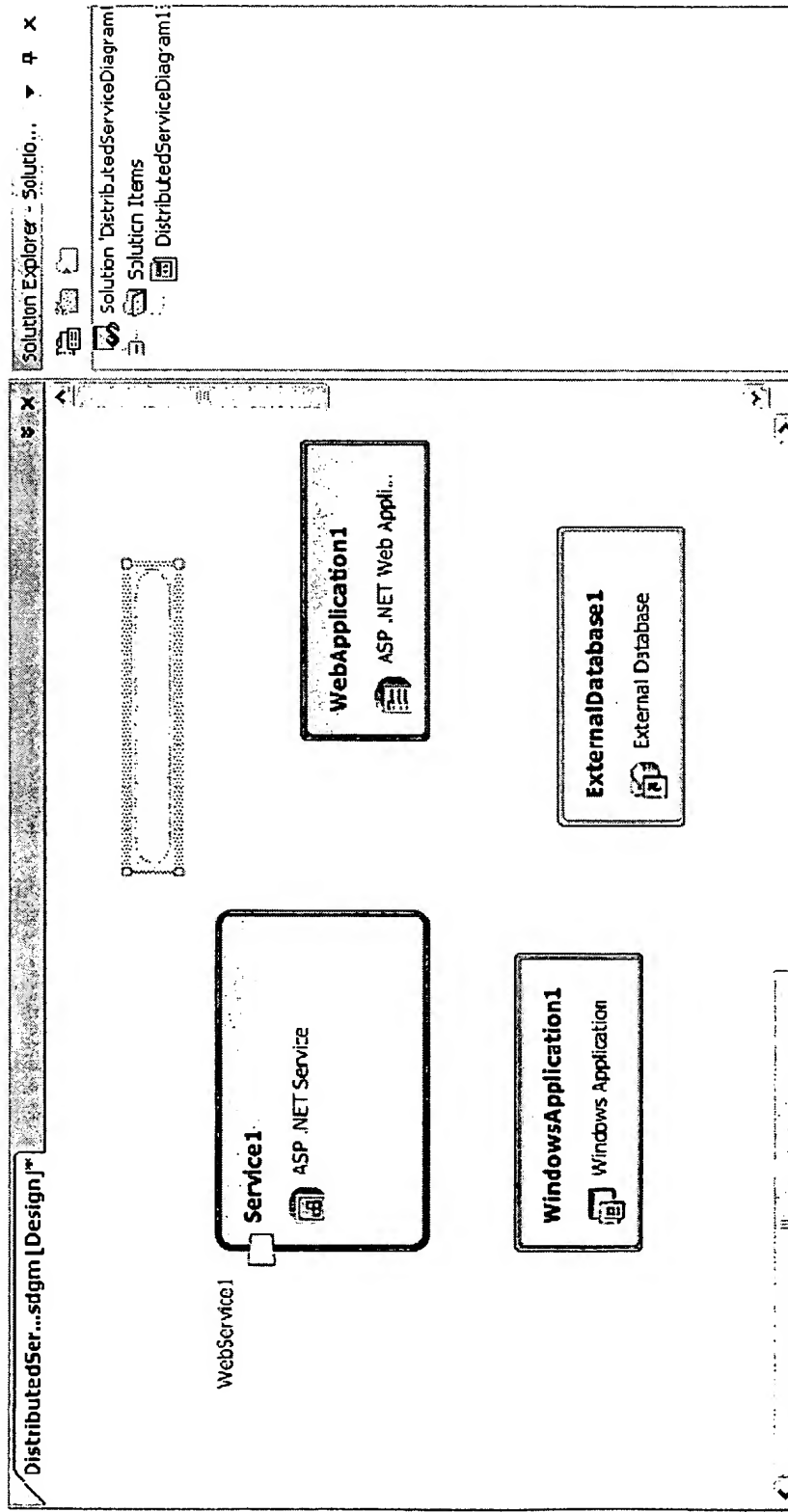


FIG. 46

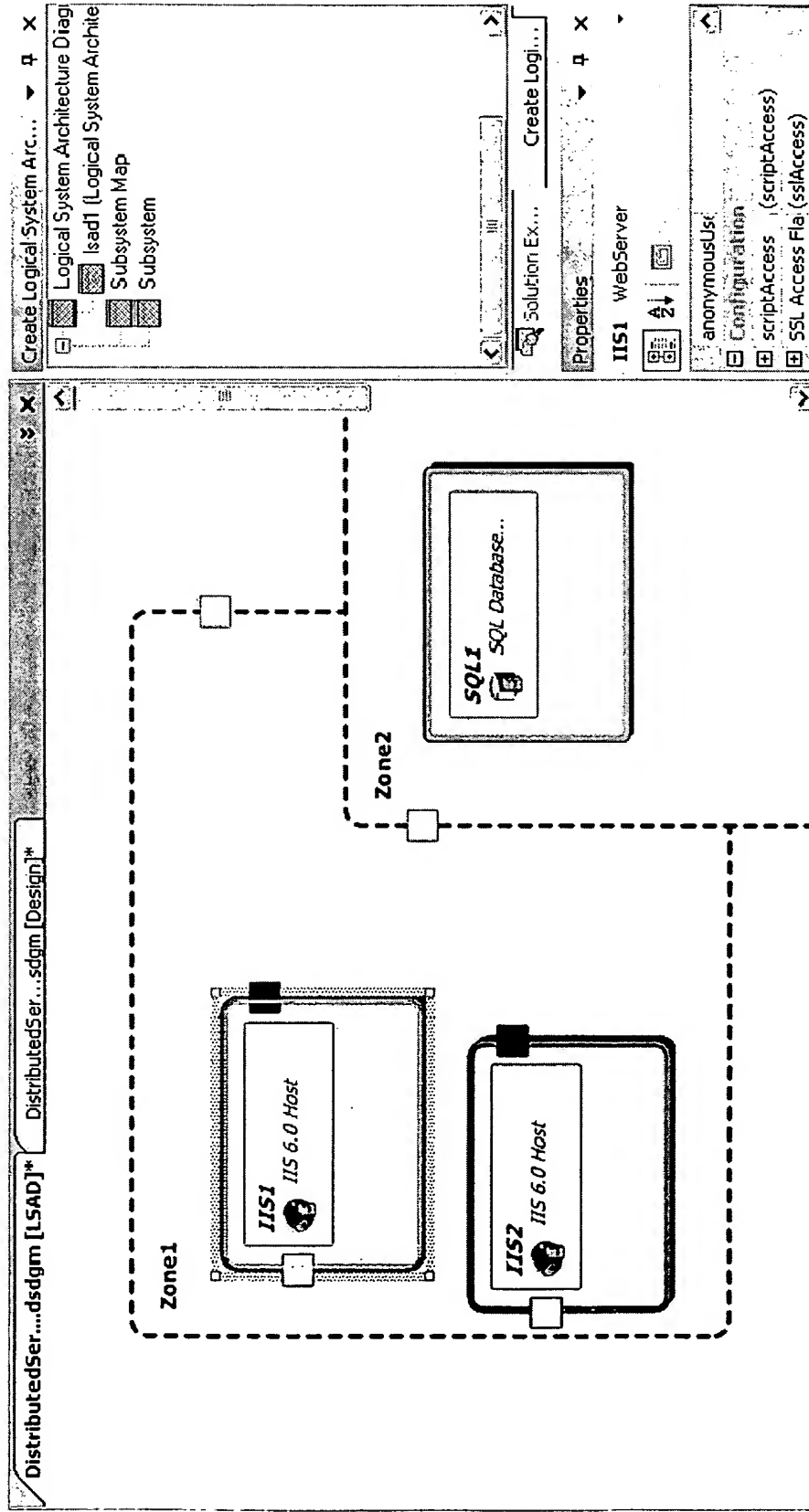
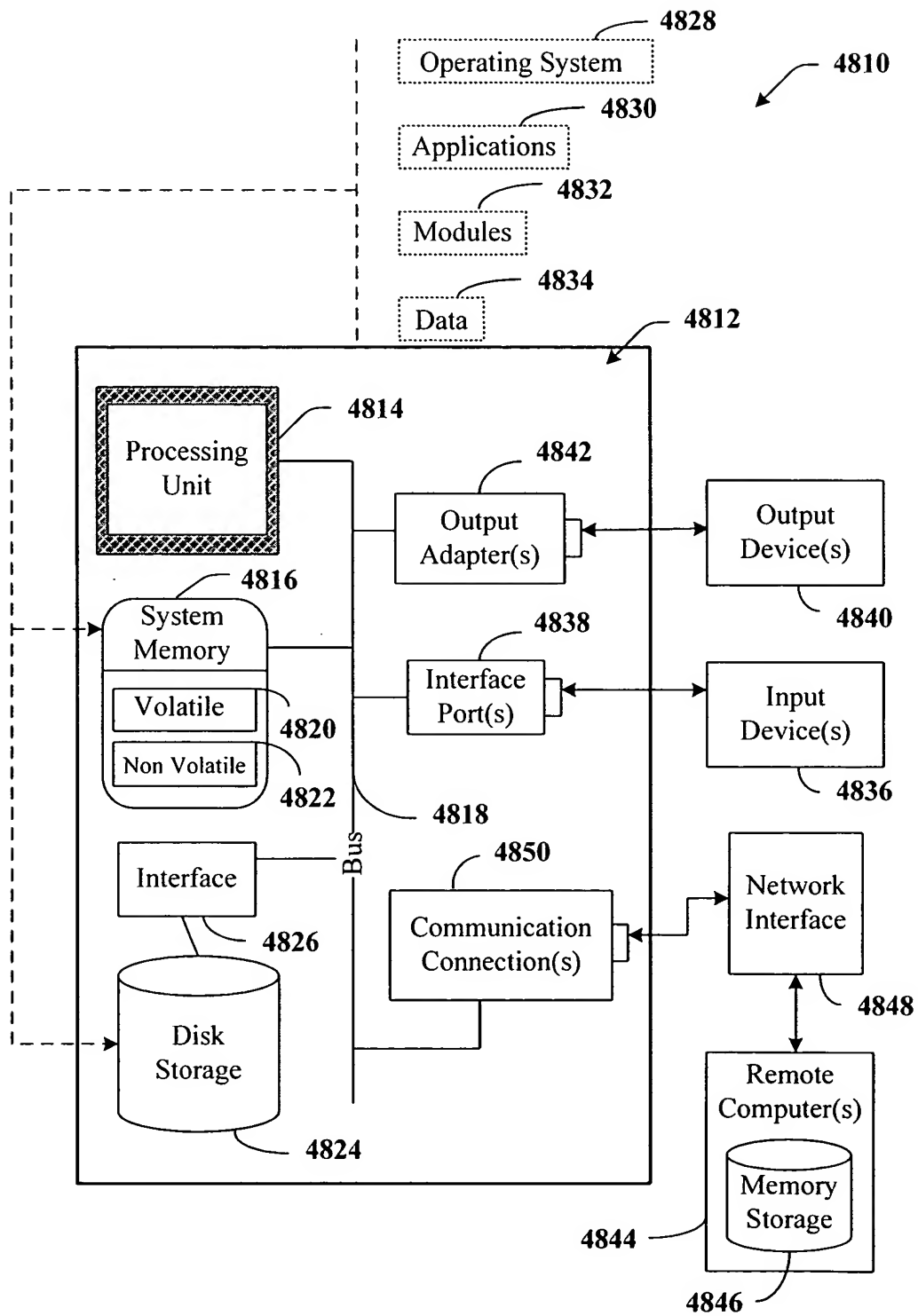


FIG. 47



**FIG. 48**